PRELIMINARY ASSESSMENT REPORT
METALS TESTING COMPANY
570 SULLIVAN AVENUE
SOUTH WINDSOR, CONNECTICUT
CERCLIS No. CTD055506828

April 5, 1994

INTRODUCTION

The following Preliminary Assessment (PA) complies with the requirements set forth under the EPA Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended. The PA represents the first step in a site screening process set forth by the National Contingency Plan (NCP). It does not necessarily fulfill the requirements of other State and Federal regulations such as RCRA. This work is being completed under Connecticut's Multi-Site Cooperative Agreement (MSCA) with EPA.

A perimeter survey was conducted at Metals Testing Company, 570 Sullivan Avenue on September 10, 1993, by MaryAnne Danyluk with the assistance of Michelle M. Bedson, both of the CT DEP. The weather was sunny, warm, and in the mid 80's. The survey was conducted in accordance with the September 1991 Document, Guidance for Performing Preliminary Assessments under CERCLA.

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SITE DESCRIPTION AND REGULATORY HISTORY

The Metals Testing Company(MTC), once known as Delisle, Inc., operated at 570 Sullivan Avenue, South Windsor, Connecticut during the 1980's. MTC currently operates at 80 Kimberly Drive, South Windsor, Connecticut, approximately one mile west of the former location(7E). The map coordinates for the facility's (CTD055506828) Sullivan Avenue location are 41° 51' 16.4" N latitude and 72° 34' 47.5" W longitude in Hartford County (3A)(Figure 1).

MTC's operations were conducted in the 5,000 square foot, single story, concrete block building built on September 7, 1979. The building is on a 7.48 acre plot and is served by municipal water and sanitary sewer system(6A).

There is a vacant field to the north of the property; Sullivan Avenue runs to the south; a residence with a cemetery monument business is to the east and a small industrial park is to the west(5)(Figure 2).

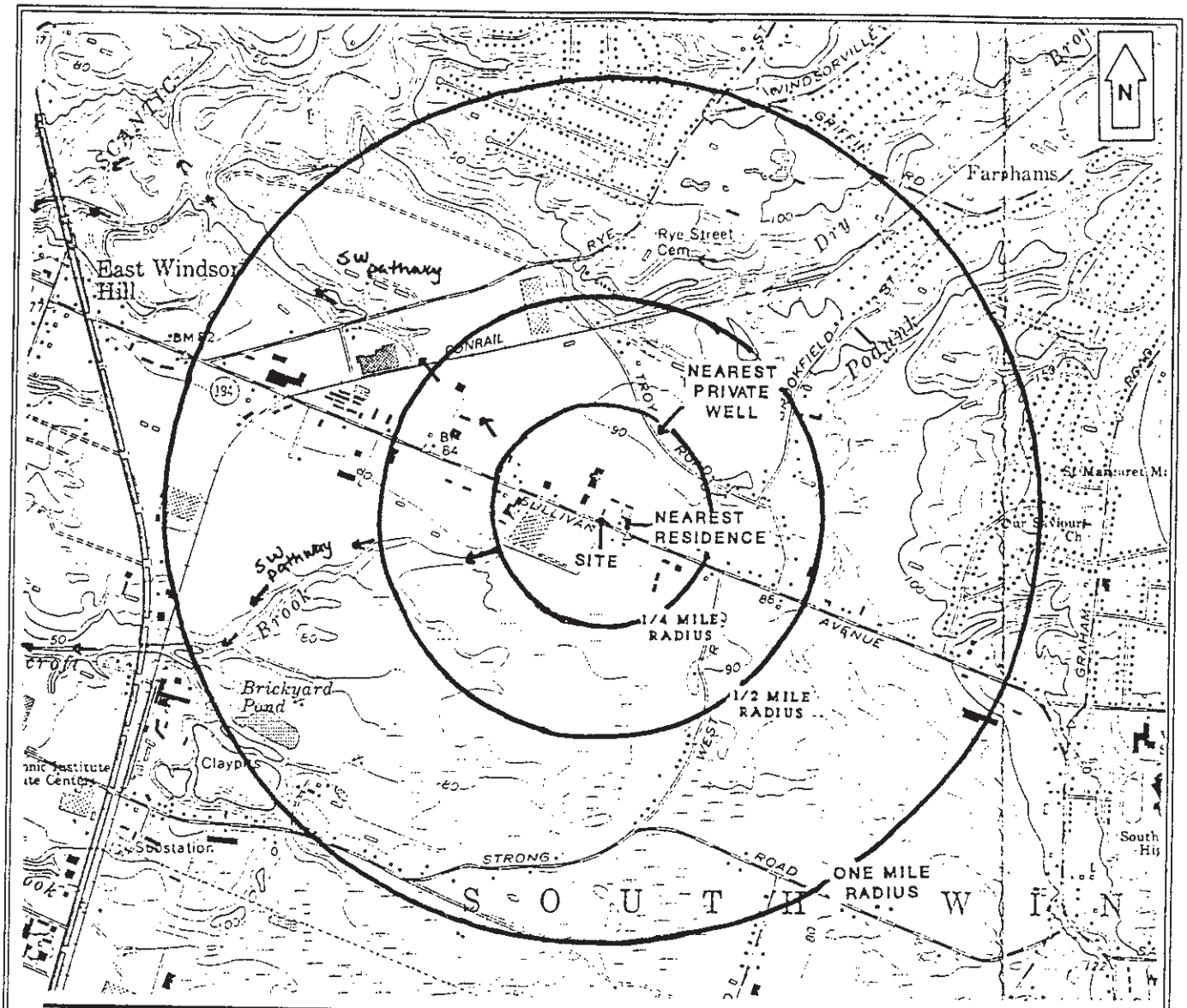
A swampy area also exists to the south of Sullivan Avenue(1Aii).

Raymond F. Handel owned the property until November 17, 1972. Constitution Bank owned it until March 2, 1979. The current property owners are Marjorie A. & William F. Myette(6A).

As previously stated, MTC was established sometime in 1980, and operated until August 1990, at 570 Sullivan Avenue. There were 17 workers employed on-site during the 1980's(3A). Robert Delisle, at that time, was the facility's owner and operator (1Aiv).

MTC conducted non-destructive testing of stainless steel, titanium, nickel, and aluminum for aircraft parts. Operational processes included: ultra-sonic testing, fluorescent penetrants, magnetic particle inspection, etching and degreasing(1Aiv). The degreasing agents typical to this type of shop are: Trichloroethylene, Xylene, Methyl Ethyl Ketone, alkaline cleaners and Isopropyl alcohol(7N).

The Water Compliance Unit of the CT DEP issued Order WC-#2592 to MTC on October 16, 1979 to: (1) modify MTC's existing waste treatment facility to increase its efficient metal



BASE MAP IS A PORTION OF THE FOLLOWING QUADRANGLES: WINDSOR LOCKS, BROAD BROOK, HARTFORD NORTH, AND MANCHESTER, CT PHOTOREVISED 1972.

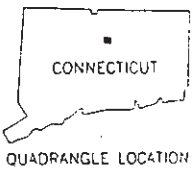
FIGURE 1
LOCATION MAP
METALS TESTING COMPANY
SOUTH WINDSOR, CONNECTICUT

SCALE 1:24 000

0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER



QUADRANGLE LOCATION

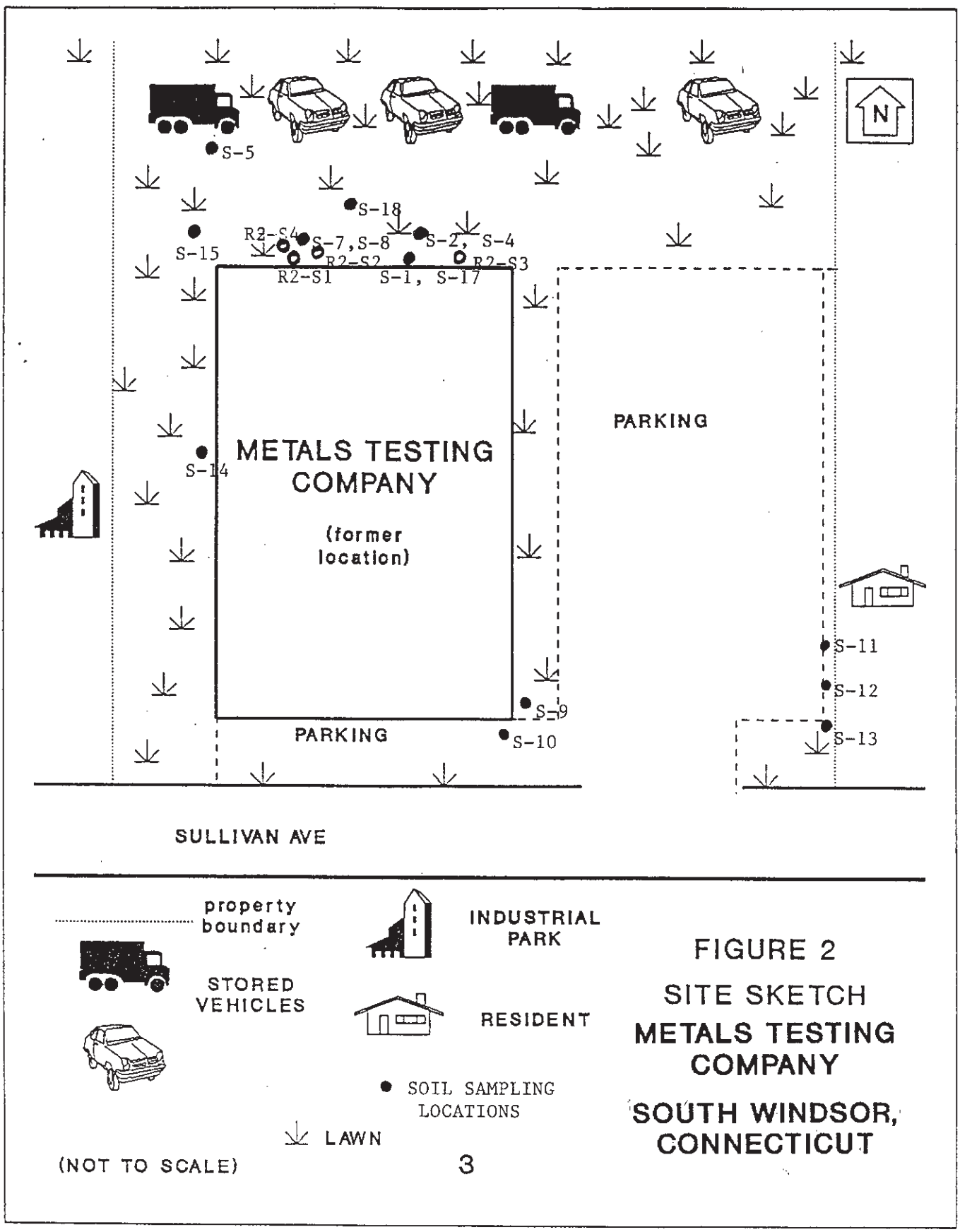


FIGURE 2

SITE SKETCH

METALS TESTING COMPANY

SOUTH WINDSOR, CONNECTICUT

finishing treatment and (2) eliminate the discharge of the film processing wastewater to an unnamed stream. It was modified twice- once on January 31, 1980, and then again on September 26, 1980(Appendix A). The fluorescent penetrant used in the non-destructive testing process was the major constituent in this facility's wastewater treatment(1Aii). A drainage swale exists on the west side of the property. This low lying area is believed to be the "unnamed stream" referred to in the Water Compliance Unit Order WC-#2592(7O).

The Wastewater Discharge Permit, DEP/WPC #132-029, was issued on March 22, 1982, by the Water Compliance Unit of the CT DEP(7I). The permit was a Minor Discharge Permit allowing its pretreated metal finishing wastewater to a South Windsor sewer system(7L)(Appendix B).

On June 13, 1988, a CT DEP Water Compliance Unit inspection found violations against the Discharge Permit and issued MTC a Notice of Violation to correct the problems. The violations were the elevated levels of chromium and fluoride detected in the grab sample collected during that inspection. To alleviate the problem, MTC replaced the faulty unit with a new unit(3B).

On October 18, 1988 an employee was killed when he spilled the three gallon pail of hydrofluoric acid he was carrying across the parking lot for disposal(2Ai)(Appendix C).

The CT DEP Waste Management Bureau files indicate that MTC operated as a Generator of hazardous wastes under the Resource Conservation Recovery Act until May 3, 1989, when they received a Status Change Approval from the US EPA. This changed their status them from a Generator to a Small Quantity Generator. This was to regulate the vapor degreaser- Trichloroethylene, used on-site(1Ai).

Another mishap occurred on April 30, 1990, when an estimated 30 gallons of trichloroethylene, was accidently released to the ground. This fact was acknowledged by Fred Shaw, South Windsor's Public Works Director and by a letter from TRI-S to the CT DEP(1Avii,2Aii,7Q)(Appendix C).

On November 22, 1991, MTC was added to the Connecticut Hazardous Waste Disposal Site Inventory(3D).

A site reconnaissance was conducted by the CT DEP on September 10, 1993, for this Preliminary Assessment. The building was observed vacant with several abandoned vehicles parked in the rear of the property.

OPERATIONAL HISTORY AND WASTE CHARACTERISTICS

Table 1 summarizes the hazardous materials, quantities, and the area where these materials were handled when MTC was operating at Sullivan Avenue from 1980 to 1990(1Aii,1Aiv).

TABLE 1

HAZARDOUS SUBSTANCES HANDLED AT THE METALS TESTING COMPANY

Substances	Storage	Year of Disposal	Volumes/ Quantities	Source Area
Trichloroethylene	T	1980-90	17 gal/mo	Underground
Sodium hydroxide	D	"	6 drums	Drum storage
Acetone	D	"	1 drum	Drum storage
Hydrochloric acid	D	"	1-4 drums	Drum storage
Hydrofluoric acid	D	"	1-2 drums	Sewer
Ferric chloride	D	"	Unknown	Sewer
Sulfuric acid	D	"	1-2 carboys	Sewer
Fluorescent penetrant	D	"	3 drums/year	Hauler
Sludge	U	"	6,000 gal/yr	Hauler
Waste oil	D	"	3 drums/year	Hauler
Nickel	D	"	Unknown	Unknown
Nitric acid	D	"	1-4 drums	Drum storage
Xylene	D	"	1 gallon	Drum storage
Ammonium bifluoride	D	"	100 lbs	Unknown
Phosphoric acid	D	"	1-2 carboys	Drum storage
Methyl ethyl ketone	D	"	10-25 gal/yr	Drum storage
Titanium	D	"	Unknown	Unknown
Aluminum	D	"	Unknown	Unknown
Alkaline cleaner	D	"	16 drums	Drum storage
Acid salt	D	"	50 lbs	Unknown
Waste solvent	D	"	250 gal/yr	Hauler
Hydrofluoric acid	P	"	3 gallons	Ground
Hydrochloric acid	P	"	30 gallons	Ground

T = tank
D = drums
lbs= pounds
U = unknown
mo= month
yr= year
p = pail
gal= gallon(s)

Table 2 summarizes the containment and the spatial locations of the potential sources at MTC(Figure 3).

TABLE 2

THE HAZARDOUS WASTE CONTAINMENT/LOCATIONS AT THE METALS TESTING COMPANY

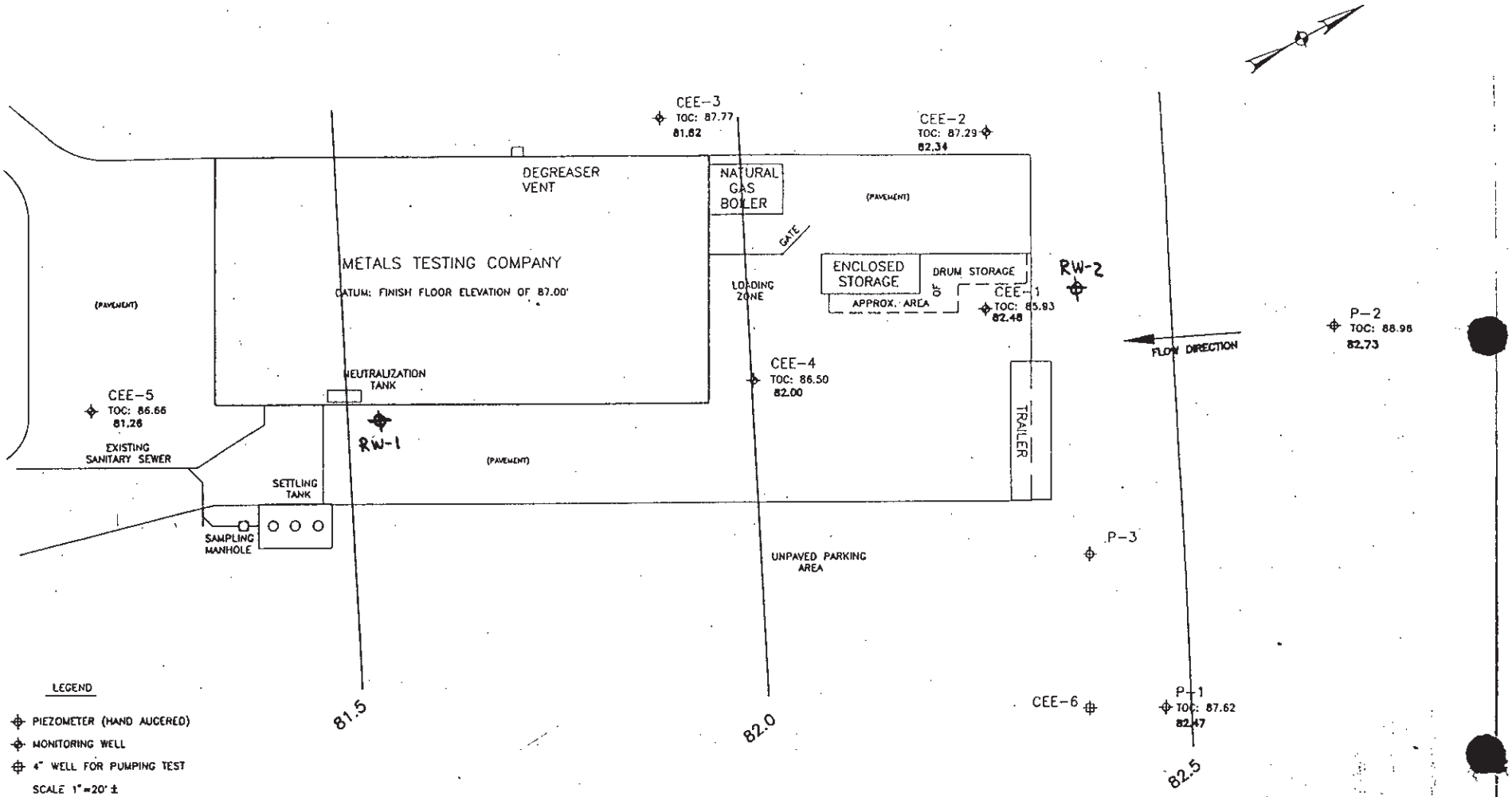
Containment Characteristics	Spatial Location of the Potential Sources
Degreaser vent	Outside building wall(west)
Neutralizing tank	Inside building wall(east)
Settling tank	Southeast corner of the property
Trailer	Northeast corner of the property

Table 3 lists the Resource Conservation Recovery Act(RCRA) notifiers within one mile of MTC(1Avi).

TABLE 3

RCRA NOTIFIERS WITHIN ONE MILE OF THE METALS TESTING COMPANY

Notifier	ID #	ADDRESS
Battisons of S. Windsor	CTD980916290	758 Sullivan Avenue
Becon, Inc.	CTD982753840	46 Schweir Road
Burgess Road Landfill	CTD982543316	Burgess Road
Central Env. Services	CTD018811802	90 Brookfield Road
Consertherm	CTD005931456	489 Sullivan Avenue
H & B Tool	CTD001143809	481 Sullivan Avenue
Plunkett Webster, Inc	CTD982711830	299 Strong Road
Premetco, Inc.	CTD980914576	200 Sullivan Avenue
Preston Trucking Company	CTD983876574	150 Strong Road
South Windsor Metallurgical	CTD981205271	300 Rye Street



MONITORING WELLS CEE-1, CEE-2, CEE-3, AND PIEZOMETERS, P-1, P-2, WERE INSTALLED ON APRIL 16, 1990

MONITORING WELLS CEE-4, CEE-5, AND PUMPING WELL CEE-6, WERE INSTALLED ON JUNE 4, 1990

PIEZOMETER P-3 WAS INSTALLED ON JUNE 13, 1990

FIGURE 3

CAD 900230102.DWG

CLIENT: METALS TESTING COMPANY	JOB No. 900.23
TITLE: GROUNDWATER ELEVATION CONTOURS – 6/11/90	DATE: JULY 90

consulting environmental engineers, inc.

ENVIRONMENTAL SETTING

The site lies in the Central Lowlands of Connecticut. The surrounding land use is a mixture of light industrial, commercial, agricultural, and residential(5).

The soils are mapped as Ninigret, a fine sandy loam and the Walpole, a sandy loam(1Aiv).

The top 16 feet are terrace deposits, consisting of well laminated sand, silt, and clay which overlie approximately 150 feet of lacustrine deposits consisting of partly varved clay, silt and sand(1Aiv).

Till is inferred to be present at lower depths almost as stratified deposits(7A).

A confining layer of rthymmitic silt and clay sequences exist 14 feet below grade(1Aiv).

The bedrock in this area is the Portland arkose. It is a yellowish-brown well-laminated sand, silt and clay with pebbles (7B).

Groundwater Pathway

The Connecticut Water Quality Classification of the groundwater in this area is GA(4A)(Appendix D).

On April 16, 1990, Consulting Environmental Engineers (CEE) supervised General Boring's installation of the six shallow groundwater monitoring wells CEE-1, CEE-2, CEE-3, CEE-4, CEE-5, and CEE-6 on-site(1Aiv)(Figure 3).

Three piezometers were hand augered by CEE northeast of the building. Piezometers, P-1 and P-2 were installed on April 16, 1990 and P-3 on June 13, 1990(1Aiv)(Figure 3).

Table 4 summarizes the groundwater sampling data reported by CEE from the April 24, 1990 sampling event(1Aiv,7P,7R)(Appendix F). The boring logs for the wells on-site are supplied in Appendix E of this report.

TABLE 4

GROUNDWATER SAMPLING SUMMARY
METALS TESTING COMPANY
Collected by CEE on April 24, 1990.

Contaminant	CEE-1	CEE-2	CEE-3	STD
1,1 Dichlor	5.9	ND	ND	7
1,2 Dichlor	53	ND	ND	5
Dibromochlor	530	ND	ND	100
Methylene	13	ND	ND	25
PCE	31	ND	ND	5
1,1,1,2 Tetra	10	ND	ND	-
TCA	220	ND	ND	200
1,1,2 Tri	120	ND	ND	-
TCE	5500	63	15	5
THM	561	ND	ND	-
Bromodich	31	ND	ND	-

Results were reported in parts per billion(ppb).

TPH	<2	<2	<2	-

Results were reported in parts per million(ppm).

1,1 Dichloroethylene
1,2 Dichloroethane
Dibromochloromethane
Methylene chloride
TCE= Trichloroethylene
TMH= Trihalomethane

PCE= Tetrachlorothelyene
1,1,1,2 Tetrachloroethylene
TCA= 1,1,1 Trichloroethane
1,1,2 Trichloroethylene
TPH= Total Petroleum Hydrocarbons
Bromodich= Bromodichloromethane

ND = Not detected
- = Not proposed

NA = Not analyzed
STD= Drinking Water Standards

On April 30, 1990, CEE reported to the CT DEP monitoring well CEE-1, indicated the presence of Trichloroethylene at a level of 5 ppm and suggested groundwater remediation(1Avii)(Appendix C).

Table 5 summarizes the groundwater sampling data reported by CEE from the sampling event on June 11, 1990(1Av,7P,7R)(Appendix G).

TABLE 5

GROUNDWATER SAMPLING SUMMARY
METALS TESTING COMPANY
Collected by CEE on June 11, 1990.

Contaminant	CEE-1	CEE-4	CEE-5	STD
1,1 Dichlor	6	ND	ND	7
1,2 Dichlor	ND	ND	ND	5
Dibromochlor	ND	ND	ND	-
Methylene	ND	ND	ND	25
PCE	25	ND	ND	5
1,1,1,2 Tetra	3.4	ND	ND	-
TCA	65	ND	ND	200
1,1,2 Tri	120	ND	ND	-
TCE	3000	63	15	5
Trihalomethane	ND	ND	ND	-
	Results were reported in parts per billion(ppb).			
Aluminum	NA	NA	1.86	.05
Nickel	NA	NA	.314	.10
Zinc	NA	NA	.020	5
TPH	NA	NA	NA	-
	Results were reported in parts per million(ppm).			

1,1 Dichloroethylene
1,2 Dichloroethane
Dibromochloromethane
Methylene chloride
TCE= Trichloroethylene
PCE= Tetrachlorothelyene
1,1,1,2 Tetrachloroethylene
TCA= 1,1,1 Trichloroethane
1,1,2 Trichloroethylene
TPH= Total Petroleum Hydrocarbons

ND = Not detected
- = Not proposed
NA = Not analyzed
STD= Drinking Water Standards

On November 15, 1990, TRI-S Environmental Consulting (TEC), supervised Kennedy Drilling during the installation of two 4" PVC recovery wells, RW-1 and RW-2. Both wells were installed at a depth of 14 feet in the unconsolidated strata. Well RW-1, is used to treat the groundwater at the site. Well RW-2, supplies water to the shallow tray in the soil venting system they installed at MTC(3C).

Table 6 summarizes the groundwater sampling data reported by TRI-S Environmental Consulting(TEC) from sampling event on October 29, 1991(1Aiii)(Appendix H).

TABLE 6

GROUNDWATER SAMPLING SUMMARY
METALS TESTING COMPANY
Collected by TEC on October 29, 1991.

Contaminant	CEE-1	CEE-2	CEE-4	CEE-5	RW-1	STD
1,2 Dichloro	53	ND	ND	6	ND	7
1,1 Dichloro	ND	ND	ND	ND	ND	5
Dibrom	NA	NA	NA	NA	NA	-
Methylene	ND	ND	ND	ND	3	25
PCE	2	ND	ND	1	ND	5
1,1,1,2 Tetra	NA	NA	NA	NA	NA	-
TCA	5	1	ND	1	ND	200
1,1,2 Tri	ND	ND	ND	ND	ND	-
TCE	>100	ND	92	37	21	5
THM	NA	NA	NA	NA	NA	-

Results were reported in parts per billion(ppb).

1,1 Dichloroethylene
1,2 Dichloroethene
Dibromochloromethane
Methylene chloride
TCE= Trichloroethylene

PCE= Tetrachlorothelyene
1,1,1,2 Tetrachloroethylene
TCA= 1,1,1 Trichloroethane
1,1,2 Trichloroethylene
TPH= Total Petroleum Hydrocarbons

ND = Not detected
- = Not proposed

NA = Not analyzed
STD= Drinking Water Standards

Table 7 summarizes the groundwater sampling data reported by TRI-S Environmental Consulting(TEC) from sampling event on February 4, 1992(1Aiii)(Appendix H).

TABLE 7

GROUNDWATER SAMPLING SUMMARY
METALS TESTING COMPANY
Collected by TEC on February 4, 1992.

Contaminant	CEE-1	CEE-2	CEE-4	CEE-5	RW-1	STD
1,2 Dichloro	NA	ND	ND	ND	ND	7
1,1 Dichloro	NA	ND	ND	ND	ND	5
Dibromo	NA	NA	NA	NA	NA	-
Methylene	NA	ND	ND	ND	ND	25
PCE	NA	ND	ND	ND	ND	5
1,1,1,2 Tetra	NA	NA	NA	NA	NA	-
TCA	NA	ND	ND	ND	ND	200
1,1,2 Tri	NA	ND	ND	ND	ND	5
TCE	NA	ND	22	16	5	-
THM	NA	NA	NA	NA	NA	-

Results were reported in parts per billion(ppb).

1,1 Dichloroethylene
1,2 Dichloroethene
Dibromochloromethane
Methylene chloride
TCE= Trichloroethylene
THM= Trihalomethane

PCE= Tetrachlorothelyene
1,1,1,2 Tetrachloroethylene
TCA= 1,1,1 Trichloroethane
1,1,2 Trichloroethylene
TPH= Total Petroleum Hydrocarbons

ND = Not detected
- = Not proposed

NA = Not analyzed
STD= Drinking Water Standards

Table 8 summarizes the groundwater sampling data reported by TRI-S Environmental Consulting(TEC) from sampling event on February 11, 1992(1Aiii)(Appendix H).

TABLE 8

GROUNDWATER SAMPLING SUMMARY
METALS TESTING COMPANY
Collected by TEC on February 11, 1992.

Contaminant	CEE-1	STD
1,2 Dichloro	ND	7
1,1 Dichloro	ND	5
Dibromochlor	NA	-
Methylene	ND	25
PCE	ND	5
1,1,1,2 Tetra	NA	-
TCA	ND	200
1,1,2 Tri	ND	-
TCE	4	5
Trihalomethane	NA	-

Results were reported in parts per billion(ppb).

1,1 Dichloroethylene
1,2 Dichloroethene
Dibromochloromethane
Methylene chloride
TCE= Trichloroethylene

PCE= Tetrachlorothelyene
1,1,1,2 Tetrachloroethylene
TCA= 1,1,1 Trichloroethane
1,1,2 Trichloroethylene

ND = Not detected
- = Not proposed

NA = Not analyzed
STD= Drinking Water Standards

Table 9 summarizes the groundwater sampling data reported by TRI-S Environmental Consulting(TEC) from the sampling event on August 26, 1992(1Aii,7P,7R)(Appendix I).

TABLE 9

GROUNDWATER SAMPLING SUMMARY
METALS TESTING COMPANY
Collected by TEC on August 26, 1992.

Contaminant	CEE-1	CEE-4	CEE-5	RW-1	Inf	STD
1,1 Dichlor	16	ND	12	ND	ND	7
1,2 Dichlor	ND	ND	ND	ND	ND	5
Dibromochlor	NA	NA	NA	NA	NA	-
Methylene	ND	ND	ND	ND	ND	25
PCE	ND	10	ND	4	ND	5
1,1,1,2 Tetra	NA	NA	NA	NA	NA	-
TCA	ND	ND	ND	ND	ND	200
1,1,2 Tri	ND	ND	ND	ND	ND	-
TCE	10	570	98	360	5	5
Trihalomethane	NA	NA	NA	NA	NA	-

Results were reported in parts per billion(ppb).

TPH	<1	NA	NA	NA	NA	NA	NA	NA	-

Results were reported in parts per million(ppm).

1,1 Dichloroethylene
1,2 Dichloroethene
Dibromochloromethane
Methylene chloride
TCE= Trichloroethylene
PCE= Tetrachlorothelyene
1,1,1,2 Tetrachloroethylene
TCA= 1,1,1 Trichloroethane
1,1,2 Trichloroethylene
TPH= Total Petroleum Hydrocarbons

ND = Not detected
- = Not proposed
NA = Not analyzed
STD= Drinking Water Standards

The underlying aquifer has been defined with these characteristics: the water table exists at a depth of 3.5 feet below the ground surface. The transmissivity is 1,000 gallons/day/foot. The saturated thickness is eight feet thick. A total flow of 300 gallons/day exists through the impacted area. A flow velocity of 1.5 feet/day is to the south. And a hydraulic conductivity of 190 gallons/day/square feet exists on-site(1Av).

There are six towns which lie within four miles of MTC's former location. Each town and the percentages of municipal water they supply to the community are: South Windsor 73%, East Windsor 55%, Windsor 100%, East Hartford 100%, Manchester 95%, and Ellington 42%(4B).

Table 10 summarizes the residents using public well water supplies within four miles of MTC. There are no public water supply wells within one mile of the property(3E,4A,C,D,E,F,7D).

TABLE 10

PUBLIC WELL SUPPLY SOURCES
WITHIN FOUR MILES OF
THE METALS TESTING COMPANY

Distance/ Direction (miles)	Source Name	Town Location	Population Served
1.25 NE	Farnham Estates	South Windsor	closed*
1.40 SE	Hillsdale	South Windsor	45+
2.50 S	Burnham Acres	South Windsor	160*
2.55 N	Ellsworth Est.#1	East Windsor	109*
2.60 N	Ellsworth Est.#2	East Windsor	109*
2.75 N	Woolam Park	East Windsor	2695~
2.80 NE	Ellsworth Est.#3	East Windsor	109*
3.65 NE	Windsorville	East Windsor	56+
		Total Population	3,283

Hillsdale Water Corp.
Burnham Acres includes 2 wells
Est.= Estates
Windsorville Water Association
*= 3E
+= 4B
~= 7D

TEC reported a groundwater divide occurring northwest to southeast. The divide is illustrated on Figure 4 of this report(1Aiii).

Table 11 represents private well water users within a four mile radius of MTC(4B,C,D,E,F,7C).

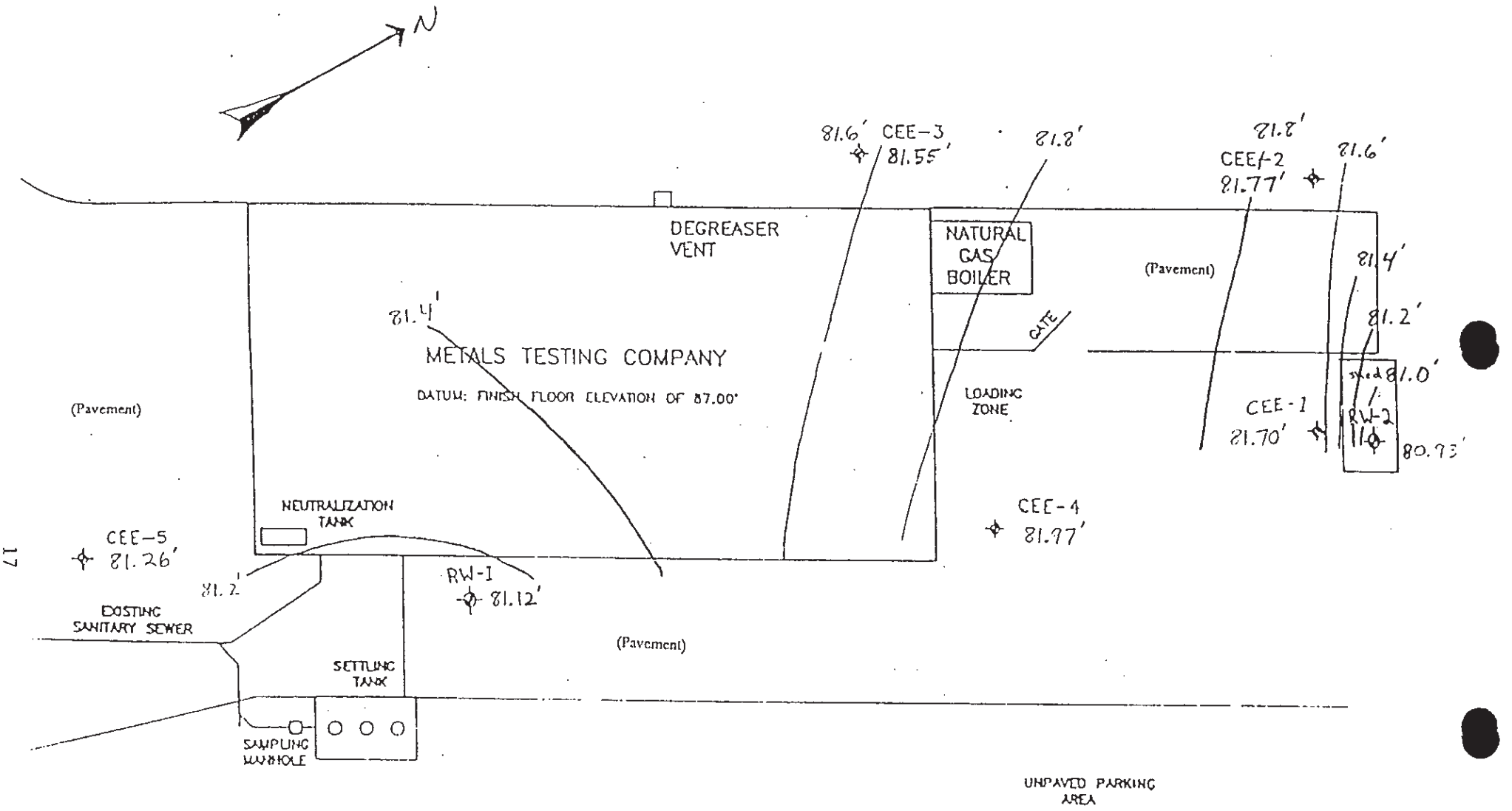
TABLE 11

POPULATIONS SERVED BY PRIVATE WELLS WITHIN FOUR MILES OF THE METALS TESTING COMPANY

Distance (miles)	Approximate Population Served by Private Wells
On-site	0
0.00- 0.25	6
0.25- 0.50	18
0.50- 1.00	72
1.00- 2.00	2474
2.00- 3.00	2814
3.00- 4.00	2512
Total Population	7,896

The number of private well users within four miles of MTC is 7,896. This number is calculated by determining the number of homes not supplied by public sources through distribution maps and multiplying by the US 1990 Census values for Connecticut for people/residence/town. The population was also calculated by determining the area/town and multiplying by the US 1990 Census values for Connecticut for number of people/square miles/town and multiplying by the percentages of public users/town.

The nearest private well is approximately 2,250 feet to the north of MTC on Troy Road(7J).



Groundwater Potentiometric Map
for 8/26/92

Metals Testing Site
570 Sullivan Ave.
South Windsor, CT

LEGEND

MONITORING WELL

SCALE 1" = 20' +

FIGURE 4

Surface Water Pathway

The topography of this area is flat and a surface water divide exists. The surface water migrates away from the site and becomes part of either the Connecticut Main Stem of the Connecticut River or the Scantic River of the Scantic River Basin of the Connecticut Major Basin(4A).

One direction the surface water runoff follows is to the north. The water that is collected from surrounding catch basins, feeds into Dry Brook. From Dry Brook the water flows westward to the Scantic River and eventually empties into the Connecticut River. The distance from this Probable Point of Entry(PPE) to Dry Brook is approximately 2,050 feet(4C).

The other surface water pathway is to the south. The water that is collected from nearby catch basins feeds into Bancroft Brook. Bancroft Brook flows westward to Stoughton Brook and eventually empties into the Connecticut River. The PPE from this surface water pathway is at a distance of approximately 2,000 feet(4C).

Table 12 lists the descriptions for each surface water body within one mile of MTC. Cubic feet per second(cfs) are the units for the average flow values calculated (4C,7G,M)(Appendix D).

TABLE 12

SURFACE WATER BODIES
WITHIN ONE MILE OF
THE METALS TESTING COMPANY

Surface Water Body	Distance to Site (miles)	CT Water Class	Average Flow (cfs)
Dry Brook	0.40	A	0-10
Scantic River	1.20	C/Bc	10-100
Bancroft Brook	0.38	A	0-10
Stoughton Brook	2.00	A	0-10
Connecticut River	2.50	C/B	68,200

The 15-mile downstream surface water pathway from either of the two Probable Point of Entries(PPE) at the site is at the Glastonbury Ferry in Glastonbury, Connecticut(4C,E,G).

The sensitive environments related to MTC are wetlands. Wetlands occur along Bancroft, Stoughton, or Dry Brooks. The wetlands are estimated to be a total of two acres in size (4C,E,G).

The site exists in an area of minimal flooding(7H).

There are no surface water intakes for drinking water purposes located along the 15-mile downstream surface water pathways(7G).

TEC samples the treated groundwater effluent on a regular schedule as outlined in the Discharge Permit issued by the CT DEP. These results are forwarded to the CT DEP Water Management Bureau. A copy of the most recent effluent results appear in Appendix J.

Soil Exposure Pathway

There were 17 workers employed at the Sullivan Avenue location(3A). Access to the site was observed unrestricted and with approximately 12 vehicles parked at the rear of the building. The building was also observed vacant during the site reconnaissance visit(5).

Table 13 is an estimation of the population within one mile of MTC(4C,D,E,F,G,7C).

TABLE 13

NEARBY POPULATIONS TO THE METALS TESTING COMPANY

Distances (miles)	Number of Residents
On-site	0
0.00- 0.25	22
0.25- 0.50	67
0.50- 1.00	267

The residence with a cemetery monument business is located approximately 200 feet east of the property. There are no schools or daycare facilities located 200 feet of the site(5).

MTC hired CEE to sample an area in the back portion of the property at the request of the Town of South Windsor and CT DEP officials. CEE collected 15 soil samples on March 28, 1990, four replicates on June 11, 1990. All samples were analyzed for inorganics, VOCs, Total Petroleum Hydrocarbons(TPH), benzene, toluene, ethyl benzene, and xylene(1Aiv)(Appendix K). CEE's soil sample locations are depicted on Figure 5.

A soil venting system TEC installed at MTC on January 4, 1991 has been operating continuously since that time(3C).

Table 14 is a summary of the soil locations used by CEE during the 1990 sampling events.

TABLE 14

1990 SOIL SAMPLING LOCATIONS USED BY CEE AT METALS TESTING COMPANY

Sample	Depth (feet)	Location
S-1	0.3- 0.6	North of trailer
S-2	0.2- 0.5	Excavated soil area
S-4	0.2- 0.5	Adjacent to S-2
S-5	0.4- 0.8	West of storage area
S-7	0.0- 0.3	Excavated soil area
S-8	2.6- 3.0	Adjacent to S-7
S-9	3.4- 3.8	Southeast building corner
S-10	3.2- 3.6	South of the building
S-11	3.2- 3.6	North of settling tank
S-12	3.2- 3.6	East of settling tank
S-13	3.2- 3.6	South of manhole
S-14	0.0- 0.4	West side/under degreaser vent
S-15	0.0- 0.4	Northwest corner of building
S-17	3.0- 3.2	Adjacent to S-1
S-18	3.0- 3.2	North of excavated area
R2-S1	1.5- 3.0	Replicate- excavated area
R2-S2	1.5- 3.0	Replicate- excavated area
R2-S3	1.5- 3.0	Replicate- excavated area
R2-S4	2.5- 3.0	Replicate- excavated area

Table 15 summarizes the soil sampling data reported by CEE from the sampling event on March 28, 1990(7R)(Appendix K).

TABLE 15

SOIL SAMPLING SUMMARY
METALS TESTING COMPANY
Collected by CEE on March 28, 1990.

Contaminant	1	2	4	7	8	9	STD
1,4 Dichlorob	ND	1200	ND	ND	ND	ND	-
PCE	ND	2900	ND	660	ND	ND	5
1,1,1,2 Tetra	ND	190	ND	ND	ND	ND	-
TCA	ND	ND	ND	ND	ND	ND	2
1,1,2 Trichloro	ND	130	ND	85	ND	ND	-
TCE	3.8	7200	6.6	17000	4.3	ND	5
		Results were reported in parts per billion(ppb).					
Aluminum	ND	ND	ND	0.7	ND	ND	.05
Nickel	ND	ND	ND	ND	ND	ND	.10
Zinc	ND	ND	ND	ND	ND	.1	5
TPH	ND	<28	<42	7400	870	ND	-
		Results were reported in parts per million(ppm).					

1,4 Dichlorobenzene
PCE= Tetrachlorothelyene
1,1,1,2 Tetrachloroethylene
TPH= Total Petroleum Hydrocarbons
TCA= 1,1,1 Trichloroethane
1,1,2 Trichloroethylene
TCE= Trichloroethylene

ND = Not detected
- = Not proposed
NA = Not analyzed
STD= Drinking Water Standards

Table 16 summarizes the soil sampling data reported by CEE from the sampling event on June 11, 1990(1Aiv,7R)(Appendix L).

TABLE 16

SOIL SAMPLING SUMMARY
METALS TESTING COMPANY
Collected by CEE on June 11, 1990.

Contaminant	S-1	S-4	S-5	STD
1,1 Dichlor	6.0	ND	ND	7
PCE	25	ND	ND	5
1,1,1,2 Tetra	3.4	ND	ND	-
TCA	65	ND	ND	2
1,1,2 Trichloro	120	ND	ND	-
TCE	3000	63	15	5
	Results were reported in parts per billion(ppb).			
Aluminum	ND	ND	1.86	.05
Nickel	ND	ND	.314	.10
Zinc	ND	ND	.020	5
TPH	ND	ND	ND	-
	Results were reported in parts per million(ppm).			

1,1 Dichloroethylene
PCE= Tetrachlorothelyene
1,1,1,2 Tetrachloroethylene
TPH= Total Petroleum Hydrocarbons
TCA= 1,1,1 Trichloroethane
1,1,2 Trichloroethylene
TCE= Trichloroethylene

ND = Not detected
- = Not proposed
NA= Not analyzed
STD= Drinking Water Standards

Table 17 summarizes the replicate soil sampling data reported CEE collected on June 13, 1990(1Av)(Appendix M).

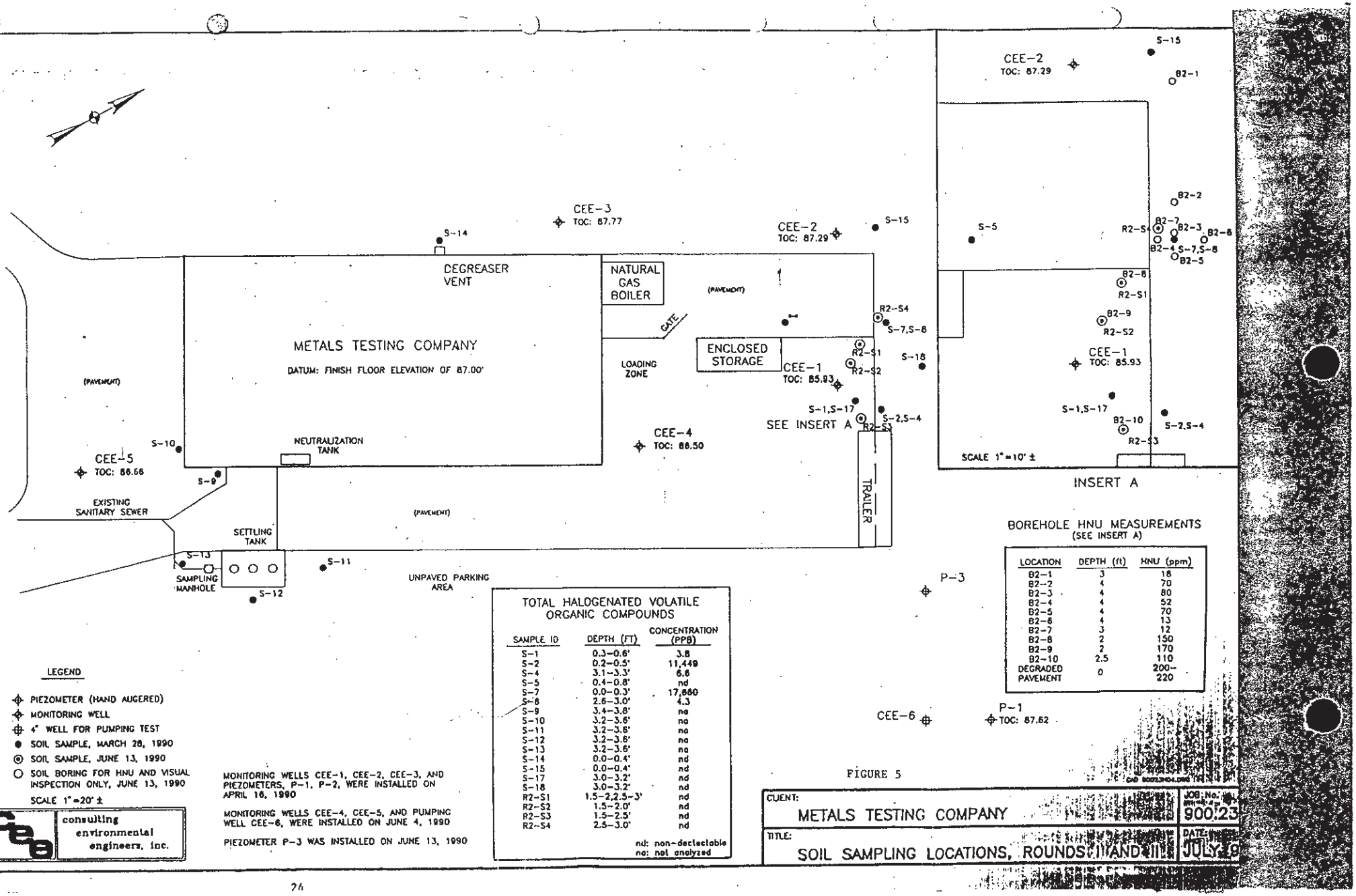
TABLE 17

REPLICATE SOIL SAMPLES SUMMARY
METALS TESTING COMPANY
Collected by CEE on June 13, 1990.

Contaminant	R2-S1	R2-S2	R2-S3	R2-S4	STD
1,1 Dichlor	ND	ND	ND	ND	7
PCE	ND	ND	ND	ND	5
1,1,1,2 Tetra	ND	ND	ND	ND	-
TCA	ND	ND	ND	ND	200
1,1,2 Trichloro	ND	ND	ND	ND	-
TCE	ND	ND	ND	ND	5
	Results were reported in parts per billion(ppb).				
Aluminum	ND	ND	ND	ND	.05
Nickel	ND	ND	ND	ND	.10
Zinc	ND	ND	ND	ND	5
TPH	<28	NA	NA	<25	-
	Results were reported in parts per million(ppm).				

1,1 Dichloroethylene
PCE= Tetrachlorothelyene
1,1,1,2 Tetrachloroethylene
TPH= Total Petroleum Hydrocarbons
TCA= 1,1,1 Trichloroethane
1,1,2 Trichloroethylene
TCE= Trichloroethylene

ND = Not detected
- = Not proposed
NA = Not analyzed
STD= Drinking Water Standards



BOREHOLE HNU MEASUREMENTS
(SEE INSERT A)

LOCATION	DEPTH (ft)	HNU (ppm)
B2-1	3	18
B2-2	4	70
B2-3	4	80
B2-4	4	52
B2-5	4	70
B2-6	4	13
B2-7	3	12
B2-8	2	150
B2-9	2	170
B2-10	2.5	110
DEGRADED PAVEMENT	0	200-220

TOTAL HALOGENATED VOLATILE ORGANIC COMPOUNDS

SAMPLE ID	DEPTH (FT)	CONCENTRATION (PPB)
S-1	0.3-0.6'	3.8
S-2	0.2-0.5'	11,449
S-4	3.1-3.3'	6.6
S-5	0.4-0.8'	nd
S-7	0.0-0.3'	17,660
S-8	2.6-3.0'	4.3
S-9	3.4-3.8'	na
S-10	3.2-3.6'	na
S-11	3.2-3.6'	na
S-12	3.2-3.6'	na
S-13	3.2-3.6'	na
S-14	0.0-0.4'	nd
S-15	0.0-0.4'	nd
S-17	3.0-3.2'	nd
S-18	3.0-3.2'	nd
R2-S1	1.5-2,2.5-3'	nd
R2-S2	1.5-2.0'	nd
R2-S3	1.5-2.5'	nd
R2-S4	2.5-3.0'	nd

nd: non-detectable
na: not analyzed

LEGEND

- PIEZOMETER (HAND AUGERED)
- MONITORING WELL
- 4" WELL FOR PUMPING TEST
- SOIL SAMPLE, MARCH 28, 1990
- SOIL SAMPLE, JUNE 13, 1990
- SOIL BORING FOR HNU AND VISUAL INSPECTION ONLY, JUNE 13, 1990

SCALE 1"=20' ±

consulting environmental engineers, inc.

MONITORING WELLS CEE-1, CEE-2, CEE-3, AND PIEZOMETERS, P-1, P-2, WERE INSTALLED ON APRIL 16, 1990

MONITORING WELLS CEE-4, CEE-5, AND PUMPING WELL CEE-6, WERE INSTALLED ON JUNE 4, 1990

PIEZOMETER P-3 WAS INSTALLED ON JUNE 13, 1990

FIGURE 5

CLIENT: METALS TESTING COMPANY

JOB No.: 900.23

TITLE: SOIL SAMPLING LOCATIONS, ROUNDS I AND II

DATE: JULY 9

Table 18 summarizes the soil sampling data reported by TEC from the sampling event on October 7, 1992(1Aii,7P,7R)(Appendix N).

TABLE 18

SOIL SAMPLING SUMMARY
METALS TESTING COMPANY
Collected by TEC on October 7, 1992.

Contaminant	1	2	4	7	8	17	STD
1,1 Dichlor	ND	ND	ND	ND	ND	ND	7
1,2 Dichlor	ND	ND	ND	ND	ND	ND	5
Dibromochlor	ND	ND	ND	ND	ND	ND	-
Methylene	ND	ND	ND	ND	ND	ND	25
PCE	ND	ND	ND	ND	ND	ND	5
1,1,1,2 Tetra	ND	ND	ND	ND	ND	ND	-
TCA	ND	ND	ND	ND	ND	ND	200
1,1,2 Tri	ND	ND	ND	ND	ND	ND	-
TCE	ND	ND	ND	ND	ND	ND	5
Trihalomethane	ND	ND	ND	ND	ND	ND	-

Results were reported in parts per billion(ppb).

1,1 Dichloroethylene
1,2 Dichloroethene
Dibromochloromethane
Methylene chloride
TCE= Trichloroethylene

PCE= Tetrachlorothelyene
1,1,1,2 Tetrachloroethylene
TCA= 1,1,1 Trichloroethane
1,1,2 Trichloroethylene
TPH= Total Petroleum Hydrocarbons

ND= Not detected
- = Not proposed

NA = Not analyzed
STD = Drinking Water Standards

Air Pathway

Table 19 summarizes the population within four miles of the property(4C,D,E,F,G,7C).

TABLE 19

**TOTAL POPULATION
WITHIN FOUR MILES OF
THE METALS TESTING COMPANY**

Distance (miles)	Population
On-site	0
0.00- 0.25	22
0.25- 0.50	67
0.50- 1.00	267
1.00- 2.00	8691
2.00- 3.00	11500
3.00- 4.00	20678
Total Population	41,225

The total population within four miles of MTC is 41,225. This number is calculated by counting residences and/or determining area/town and multiplying by the US 1990 Census values for Connecticut for the number of people/residence or the number of people/square mile/town.

Since many of the substances used at 570 Sullivan Ave have a volatile nature, a possible release to the air pathway may have occurred(7K). However, this does not pose a threat to the nearby community, since MTC is no longer an active facility at this address(5).

In a four mile radius of the site there are six species which have a proposed States status of endangered, they are: Melanerpes erythrocephalus last observed in 1863, Platanthera blephariglottis last observed in 1933, Carex alata last observed in 1993, Bartramis longicauda and Poocetus exilis last observed in 1970, and Melanerpes erythrocephalus last observed in 1937. All six species fall between one and three miles of the site.

There are ten species which have a proposed States status of threatened, they are: Lycaena epixanthe last observed in 1991, Scirpus torreyi last observed in 1917, Arisaema dracontium last observed in 1877, Asio flammeus last observed in 1854, Eremphoila alpestris last observed in 1970, Alopecurus aequalis, Ixobrychus exilis, and Lycaena epixanthe last observed in 1985, Anas discors last observed in 1986, and Gallinila chloropus last observed in 1984. All ten species fall between one and three miles.

Species having a proposed States status of special concern are:

SPECIES	LAST OBSERVED	DISTANCE FROM SITE
Dicanthelium xanthphysum	1916	1 mile
Carex oligosperm	1917	1 mile
Scirpus longii	1917	1 mile
Utricularia fibrosa	1916	2 miles
Arisaema dracontium	1981	2 miles
Passerculus sandwichensis	1991	2 miles
Carex barrattii	1993	2 miles
Carex cumulata	1993	2 miles
Arisaema dracontium	1987	3 miles
Saittaria cuneata	1899	4 miles
Hydrophyllum virginianum	1979	4 miles
Dicanthelium ovale var. addisonii	1913	4 miles

(4G)(Appendix O)

SUMMARY AND CONCLUSION

The Metals Testing Company operated at 570 Sullivan Avenue in South Windsor, Connecticut between the years of 1980 and 1990. The company currently conducts its operations at 80 Kimberly Drive in South Windsor, Connecticut. This new location is approximately one mile west of the former location.

The operations conducted on-site by 17 employees included non-destructive testing of stainless steel, titanium, nickel, and aluminum for aircraft parts.

Two spills of hazardous materials are known to have occurred at the site. One event involved hydrofluoric acid and another Trichloroethylene. The incidences occurred in 1988 and 1990, respectively.

Previous investigations indicate contamination by Volatile Organic Compounds(VOCs) and inorganic elements in the groundwater and soil on-site. The groundwater and soil at this site were sampled by two separate consulting firms and their data is on file at the CT DEP.

Groundwater sampling data regarding the seven wells on-site indicates the following ten VOCs and three inorganic elements present in the groundwater at 570 Sullivan Avenue: 1,1 Dichloroethane, Trihalomethane, 1,2 Dichloroethene, 1,1,1,2 Tetrachloroethylene, Trichloroethylene, Methylene chloride, Tetrachloroethylene, Dibromochloromethane, 1,1,1 Trichloroethane, 1,1,2 Trichloroethylene, aluminum, nickel, and zinc. Many of these substances detected can be attributed to the substances used by MTC.

The closest domestic drinking water well is approximately 0.333 mile northeast of the site. This well has never been sampled nor is it believed to be impaired by this site from all information found during this Preliminary Assessment.

It has been determined that a surface water drainage divide crosses the site. There are two surface water pathways that may have been influenced by the processes conducted at the 570 Sullivan Avenue, South Windsor address.

Documentation exists in the CT DEP files that the treated wastewaters from the photographic film processes were once discharged to the Town of South Windsor's sanitary sewer system and an unnamed stream. The precise location of the discharge to the unnamed stream in unclear.

Fifteen soil samples with four replicates were collected by CEE in 1992. The analysis indicate the following six VOCs and two inorganic elements were present in the samples: 1,1,1 Trichloroethane, Trichloroethylene, Tetrachloroethylene, 1,1,1,2 Trichloroethylene, 1,4 Dichlorobenzene, Total Petroleum Hydrocarbons, aluminum, and zinc. Again, many of these substances are attributable to substances used by MTC.

A soil venting system installed on-site by TEC in 1991, is currently treating the Volatile Organic Compounds which have contaminated the soil on-site. A groundwater remediation system has also been installed on-site and is currently operating.

The site is vacant and access to it is unrestricted.

REFERENCES

1. CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION WASTE MANAGEMENT FILES

   A. WASTE ENFORCEMENT AND ENGINEERING DIVISION

      (i) Notification of Approval of Status Change. May 3, 1989.

      (ii) RCRA inspection checklist. Scot Frost. September 2, 1981.

      (iii) TEC. Former Metals Testing Site. South Windsor, CT Report of Findings. April 8, 1993.

      (iv) CEE. 1990. Soil and Groundwater Sampling and Analysis Summary for Metals Testing Co. 570 Sullivan Avenue, South Windsor, CT. May.

      (v) CEE. 1990. Second Round Soil and Groundwater Sampling Summary and Conceptual Remediation Design. 570 Sullivan Avenue, South Windsor, Connecticut. August.

      (vi) RCRIS Handler List/ Freedom of Information (FOI) Report. May 1992.

      (vii) CEE letter to the CT DEP. May 1,1990.

2. CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION

   A. OIL AND CHEMICAL SPILLS DIVISION

      (i) Report of October 18, 1988.

      (ii) Report of April 30, 1990.

3. SUPERFUND FILES

      A. Water Resources Commission Report. April 18, 1973.

B. CEE. 1988. Letter to CT DEP's Robert Kaliszewski. August 24.

C. TRI-S. 1992. Summary Report for Metals Testing Company, South Windsor, Connecticut. May 29.

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E. Mitchell Bedson. Final Site Investigation Safety Kleen Corp., South Windsor, CT. May 14, 1993.

4. CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION NATURAL RESOURCES

A. Atlas of Public Water Supply Sources & Drainage Basins of CT.

B. Directory of Community Water Systems of Connecticut. 1986.

C. U.S.G.S. Topographic Map Manchester, CT Photorevised 1984.

D. U.S.G.S. Topographic Map Ellington, CT Photorevised 1984.

E. U.S.G.S. Topographic Map Windsor Locks, CT Photorevised 1984.

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H. Stacey Kingsbury. 1993. Natural Diversity Database. October 13.

5. SITE RECONNAISSANCE SEPTEMBER 10, 1993.

6. SOUTH WINDSOR TOWN HALL

A. Assessor's street card for Sullivan Avenue.

7. OTHER

A. Langer and Recny- Unconsolidated Materials, Manchester Quad, CT. MF-452F.

B. Roger B. Colton. 1965. Manchester Quad Hartford and Tolland Counties, CT Map GQ-433.

C. US Dept. Commerce 1991. 1990 Census of Population.

D. MaryAnne Danyluk. August 20, 1993. Telecon Bill Sullivan, CT Health Services.

E. MaryAnne Danyluk. 1993. Conversation with Robert Deputla, South Windsor Town Sanitarian. September 10.

F. MaryAnne Danyluk . 1993. Conversation with Fred Shaw, Assisstant Director of Public Works. September 10.,

G. James E. Murphy. 1987. Groundwater Classification Map.

H. Flood Insurance Rate Map. 1976. Town of South Windsor, CT. July 9.

I. MaryAnne Danyluk. 1993. Conversation with Gary Levitt. CT DEP Analyst. September 21.

J. MaryAnne Danyluk. 1993. Telecon with residents along Troy Road, South Windsor. October 19.

K. Karel Verschveren. 1983. Handbook of Environmental Data on Organic Chemicals. 2nd edition.

L. Water Management Bureau Permits Database. December 10, 1993.

M. Water Resources. CT Water Year 1992.

N. Inglese, Oswald. 1992. Best Management Practices for the Protection of Groundwater. CT DEP. November 4.

O. Danyluk, MaryAnne. 1994. Telecon with Fred Shaw, Public Works Director, Town of South Windsor, Connecticut. February 14.

P. US EPA. 1993. Drinking Water Regulations and Health Advisories. May.

Q. Gagnon, David. 1992. Letter to Frank Wacht, CT DEP. March 18.

R. Geraghty & Miller, Inc. Environmental Services. 1991. Existing and Propposed US EPA Maximum Contamination Levels in Drinking Water as of August 1991.

APPENDIX A

CT DEP ORDER WC# 2592

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

STATE OFFICE BUILDING HARTFORD, CONNECTICUT 06115

October 16, 1979

STATE OF CONNECTICUT
VS.
METALS TESTING COMPANY, INC.

IN THE MATTER OF AN ORDER TO METALS TESTING COMPANY, INC. TO ABATE POLLUTION

ORDER

Having found that Metals Testing Company, Inc., is maintaining a facility which no longer assures or adequately protects against pollution of the waters of the State under the provisions of Chapter 474a of the Connecticut General Statutes as amended, the Commissioner of Environmental Protection acting under Section 25-54j hereby Orders Metals Testing Company, Inc., to take such action as is necessary to:

1) Modify existing waste treatment facilities as necessary to increase treatment efficiency of the wastewaters associated with the various metal finishing operations and thereby accomplish the removal of metal ions, the reduction and removal of hexavalent chromium, the neutralization of excess acidity and alkalinity, and the appropriate processing of such other materials as are discharged to the South Windsor sanitary sewerage system.

2) Eliminate the discharge of film processing wastewater to an unnamed tributory to the Connecticut River by Connection to the Town of South Windsor sanitary sewerage system.

Metals Testing Company, Inc., is further Ordered to accomplish the above described program, except as may be revised by the recommendations of detailed engineering study and agreed to by the Commissioner of Environmental Protection in accordance with the following schedule:

A) On or before October 31, 1979 verify to the Commissioner of Environmental Protection that Metals Testing Company, Inc. has entered into a contract with a Connecticut registered professional engineer for the preparation of an engineering report in accordance with the requirements of Step B of the Order or that the report will be prepared by the technical staff of the firm.

B) On or before November 30, 1979 verify to the Commissioner of Environmental Protection that film developing wastewaters are being discharged to the Town of South Windsor sanitary sewerage system.

C) On or before December 31, 1979 submit for the review and approval of the

Commissioner of Environmental Protection an engineering report describing existing treatment facilities and operations including a detailed analysis of all wastewater flows discharged to the treatment system and recommended modifications to the facilities as may be necessary to increase treatment efficiency and accomplish flow reduction.

D) On or before March 31, 1980 submit for the review and approval of the Commissioner of Environmental Protection plans and specifications with a summary basis of design describing the necessary modifications.

E) On or before May 31, 1980 verify to the Commissioner of Environmental Protection that construction has been started.

F) On or before July 31, 1980 verify to the Commissioner of Environmental Protection that the constructed facilities have been placed in operation.

Entered as an Order of the Commissioner of Environmental Protection this sixteenth day of October, 1979.

Stanley J. Pac

Stanley J. Pac
COMMISSIONER

ORDER NO. 2592

South Windsor

SENT CERTIFIED MAIL - RRR

SJP/SA/maf

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE OFFICE BUILDING HARTFORD, CONNECTICUT 06115

2592

STATE OF CONNECTICUT
VS.
METALS TESTING COMPANY, INC.

IN THE MATTER OF AN ORDER TO METALS TESTING COMPANY, INC., TO ABATE POLLUTION

ORDER

Having found that Metals Testing Company, Inc., is maintaining a facility which no longer assures or adequately protects against pollution of the waters of the State under the provisions of Chapter 474a of the General Statutes as amended, the Commissioner of Environmental Protection acting under Section 25-54j hereby Orders Metals Testing Company, Inc. to comply with all the conditions of the Order entered as an Order of the Commissioner of Environmental Protection on the sixteenth day of October, 1979 except that:

1) Paragraph C in conformance with a written request from Metals Testing Company, Inc. and agreed to by the Commissioner of Environmental Protection acting under Section 25-54o of the General Statutes as amended is modified to read as follows:

C) On or before March 31, 1980 submit for the review and approval of the Commissioner of Environmental Protection an engineering report describing existing treatment facilities and operations including a detailed analysis of all wastewater flows discharged to the treatment system and recommended modifications to the facilities as may be necessary to increase treatment efficiency and accomplish flow reduction.

Entered as a modification of an Order of the Commissioner of Environmental Protection this 31st day of January, 1980.

Stanley J Pac
Stanley J Pac
COMMISSIONER

ORDER NO. 2592 Modified

South Windsor

SENT CERTIFIED MAIL - RRR

cc: Consulting Environmental Engineers, Inc.
Attn: Mr. William A. Williams, P. E.

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

STATE OFFICE BUILDING HARTFORD, CONNECTICUT 06115

2592

STATE OF CONNECTICUT
VS.
METALS TESTING COMPANY, INC.

IN THE MATTER OF AN ORDER TO METALS TESTING COMPANY, INC. TO ABATE POLLUTION

ORDER

Having found that Metals Testing Company, Inc. is maintaining a facility which no longer assures or adequately protects against pollution of the waters of the State under the provisions of Chapter 474a of the General Statutes as amended, the Commissioner of Environmental Protection acting under Section 25-54j hereby Orders Metals Testing Company, Inc. to comply with all the conditions of the Order entered as an Order of the Commissioner of Environmental Protection on the sixteenth day of October, 1979 except that:

1) Paragraph E is modified by the Commissioner to read as follows:

E) On or before December 31, 1980 eliminate the discharge of all metal finishing wastewaters originating from the site located at 1 Bidwell Road & John Fitch Boulevard, South Windsor, Ct.

2) Paragrpah F is deleted.

Entered as a modification of an Order of the Commissioner of Environmental Protection this 26th day of September, 1980.

Stanley J. Pac
Stanley J. Pac
COMMISSIONER

ORDER No. 2592 Modified

South Windsor

SENT CERTIFIED MAIL - RRR

cc: Consulting Environmental Engineers
Attn: Mr. William A. Williams, P. E.

APPENDIX B

DISCHARGE PERMIT

80-159

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PERMIT

Metals Testing Company
576 Sullivan Avenue
South Windsor, Connecticut 06074

Attention: Mr. Robert Delisle

Re: DEP/WPC-132-029
Town of South Windsor
Connecticut River Watershed

Gentlemen:

This PERMIT is issued in accordance with Section 25-54i of the Connecticut General Statutes, as amended. The Commissioner of Environmental Protection (hereinafter "the Commissioner") has found that the system installed for the treatment of the discharge will protect the waters of the station from pollution.

The Commissioner, acting under Section 25-54i, hereby permits Metals Testing Company to discharge pretreated metal finishing wastewater in accordance with the following conditions:

1) The wastewater shall be pretreated and discharged in accordance with the plans and specifications approved by the Director of Water Compliance on September 25, 1981.

2) The discharge described in this permit shall not exceed and shall otherwise conform to the specific terms and general conditions specified herein:

A) Discharge Serial No. 001 (metal finishing wastewater)
Discharge Location - South Windsor Sewerage System
Average Daily Flow - 5,000 gallons per day

Parameter	Average Daily Quantity	Maximum Daily Concentration	Average Daily Concentration
Chromium - Hexavalent	0.002	0.3	0.1 mg/l
Chromium - Total	0.019	3.0	1.0 mg/l
Flouride	0.38	25 mg/l	20 mg/l
Nickel	0.019	3.0	1.0 mg/l
Total Suspended Solids	0.38	30	20 mg/l

1) The pH of the discharge shall not be less than 6.0 or greater than 9.0.

B) Discharge Serial No. 002 (Non-destructive testing wastewater)
Location of Discharge - Town of South Windsor Sewerage System
Average Daily Flow - 1,500 gallons per day

1) The pH of the discharge shall not be less than 6.0 or greater than 9.0.

3) The discharge shall be monitored and results reported to the Director of Water Compliance by the 10th of each month according to the following schedule:

A) Discharge Serial No. 001

Parameter	Minimum Frequency of Sampling	Sample Type
Chromium - Hexavalent	Monthly	Composite
Chromium - Total	Monthly	Composite
Flouride	Monthly	Composite
Nickel	Monthly	Composite
Total Suspended Solids	Monthly	Composite
pH	Monthly	Range during composite

1) Record the total flow for the day of sample collection.

2) The report shall include a detailed explanation of any violations of the limitations specified in paragraph 2 above.

B) Discharge Serial No. 002

Parameter	Minimum Frequency of Sampling	Sample Type
Biochemical Oxygen Demand (5-Day)	Quarterly	Composite
Total Suspended Solids	Quarterly	Composite
pH	Quarterly	Range during composite

1) Record the total flow for the day of composite sample collection.

4) The pretreatment facilities or any part thereof shall not be bypassed at any time. If any part of the waste treatment facilities become inoperative at any time, the Water Compliance Unit shall be notified immediately. A written report shall follow, giving the cause of the problem, duration and corrective measures taken.

5) The disposal of screenings, sludges and other solids or oils and other liquid chemical wastes shall be at locations approved in accordance with the provisions of Chapter 474a and/or Chapter 361a of the Connecticut General Statutes or to waste haulers licensed under Chapter 474a of the Connecticut General Statutes.

6) Process controls or such other means or facilities as approved by the Director of Water Compliance on September 25, 1981 shall be maintained to insure that no discharge of untreated or partially treated wastewater will occur during a failure of the primary power source.

This PERMIT is issued under Section 25-54i and shall expire on March 22, 1987. The PERMIT shall be subject to all the Section 25-54i General Conditions dated April 27, 1979 which are hereby incorporated into this PERMIT.

Entered as a PERMIT of the Commissioner on the 22nd day of March, 1982.

Stanley J. Pac
COMMISSIONER

APPENDIX C

CT DEP OIL & SPILLS
INCIDENCE RESPONSE REPORTS

CONNECTICUT [redacted]ENT OF ENVIRONMENTAL PROTECTION
[redacted]hemical Spill Section
Hazardous Materials Management Unit

E# 2653

ASSIGNED TO: MVF

EMERGENCY INCIDENT REPORT

DATE: 10-18-88 TIME: 11:15 AM TOWN OF DISCHARGE: SOUTH WINDSOR
FROM: S. WINDSOR P.D. BY: DEP. DODD PHONE: 644-2551
REPRESENTING: METALS TESTING INC.
STREET ADDRESS: 570 SULLIVAN AVE.
CITY: SOUTH WINDSOR, CT.
LOCATION OF DISCHARGE: 570 SULLIVAN AVE.

DISCHARGE TYPE: ( ) PETRO (X) CHEMICAL ( ) GAS. EMMISSION ( ) OTHER
DISCHARGE SUBSTANCE: HYDROFLUORIC ACID 70% TOTAL QUANTITY: 3 GAL.
DATE OF DISCHARGE: 10-18-88 TIME OF DISCHARGE:
CONTAINMENT MEASURES: NEUTRALIZED WITH SODA ASH

WATER BODY: NONE TOTAL IN WATER:
TOTAL RECOVERED: 0 RECOVERED FROM WATER:
DISCHARGER: METALS TESTING DISCHARGE STOPPED: YES
DISCHARGER ACCEPTS FINANCIAL RESPONSIBILITY:

DISCHARGE CLASS

1. UNKNOWN ( )	2. MARINE TERMINAL( )	3. INDUSTRIAL(✓)	4. TRANSPORTATION( )
5. PRIVATE ( )	6. GOVERNMENTAL ( )	7. VESSELS ( )	8. COMMERCIAL ( )
9. INLAND TERMINAL( )	10. UTILITY ( )	11. NATURAL ( )	99. OTHER ( )

CAUSE

1. UNKNOWN ( )	2. HOSE FAILURE ( )	3. TRANSF. LINE FAILURE( )
4. INGROUND TANK FAILURE( )	5. ABOVE GRND TANK FAIL.( )	6. SADDLE TANK FRACTURE( )
7. CARGO TANK FAILURE ( )	8. FUEL TANK FAILURE ( )	9. HULL FRACTURE ( )
10. TANK OVERFILL ( )	11. CONTAINER FAILURE (✓)	12. VALVE FAILURE ( )
13. FIRE ( )	14. POWER FAILURE ( )	15. PUMP FAILURE ( )
16. PUMPING ( )	17. DUMPING ( )	18. ILLEGAL DISCHARGE ( )
19. SINKING ( )	20. SEEPAGE ( )	21. PUMPING BILGE ( )
22. OPEN HATCH ( )	23. VANDALISM ( )	24. BLOW BACK ( )
25. ROAD OILING/REPAIR ( )	26. VEHICULAR ACCIDENT ( )	27. TRANS/CAPACITOR ( )
28. NATURAL ( )	99. OTHER ( )	

CORRECTIVE ACTIONS

1. NONE ( )	2. NONE REQUIRED( )	3. UNKNOWN ( )	4. REMOVED ( )
5. CONTAINED & REMOVED( )	6. CONTRACTED ( )	7. TEST WELL(S) ( )	8. DISSAPATED ( )
9. EVAPORATED ( )	10. SANDED ( )	11. FOAMED ( )	12. REFERRED ( )
13. CLEANED ( )	14. WASHED DOWN ( )	15. PUMPED OUT ( )	14. NUETRALIZED( )
17. RECOVERY SYSTEM ( )	18. REPAIRED LINE( )	19. REPAIRED TANK( )	20. DISPERSED ( )
21. REMOVED TANK ( )	99. OTHER ( )		

CLEAN-UP ACTIONS BEING TAKEN:

AGENCIES NOTIFIED: S. WINDSOR P.D. D.E.P. SULLIVAN
CLEANUP CONTRACTOR: REQUESTED: ARRIVED:
STATUS: (✓) OPEN ( ) CLOSED ( ) MONITORED CODE:
RECEIVED BY: M. CAGUARD INSPECTOR: L.F.

TIME/DATE ASSIGNED TO INSPECTOR ESTIMATED ETA

SUPPLEMENTAL INFORMATION

PROPERTY OWNER: _____

_____

_____

Phone Number: _____

POLLUTER: _____

_____

_____

Phone Number: _____

VEHICLE IDENT: TRACTOR:

Type: _____ Reg. #: _____

Operator: _____ License #: _____

Owner: _____

_____ Phone #: _____

TRAILER:

Type: _____ Reg. #: _____

Operator: _____ Trailer #: _____

Owner: _____

_____ Phone #: _____

CONTRACTOR INFO.: NAME: _____

Equipment:

Boom _____	Vac Truck _____	Hose _____
Boat _____	F/F Mats _____	Vactor _____
Special _____	Hand Tools _____	Skimmer _____
Manpower _____		

OTHER MATERIALS: (Haz. Mat. Equipment) _____

SAMPLES:

Qty.: _____ Qty.: _____

Loc.: _____ Loc.: _____

CONTACTS: Name: _____ Phone Number: _____

Name: _____ Phone Number: _____

ADDITIONAL INFORMATION:

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION
Hazardous Materials Management Unit
Oil and Chemical Spill [illegible]ion

CASE # 1402 4/[illegible]/90 ASSIGNED TO: NR

EMERGENCY INCIDENT REPORT

DATE: 4/30/90 TIME: 4 : 00 TOWN of INCIDENT: South Windsor
FROM: ______ BY: Dave Davis PHONE: 953-0023
REPRESENTING: Consulting Env. Engineers
ADDRESS: 20 Shield St
West Hartford
INCIDENT LOCATION: 520 Sullivan Ave, Meadow Testing - Bob Delisle

TYPE: ( ) PETRO. (X) CHEMICAL ( ) DIELECT. ( ) GASEOUS ( ) HAZ. WST. ( ) OTHER
DISCHARGE SUBSTANCE: Trichloro Ethylene
QUANTITY: Unk
SARA: ( ) EXTREMELY HAZ. SUB. ( ) CERCLA HAZ. SUB. FED. RQ ______
( ) RELEASE CROSSED PROPERTY LINE ( ) PROTECTIVE ACTIONS (cont. other side)
DATE OF SPILL: / /N/A TIME OF SPILL: : N/A SPILL STOPPED : N/A
MISC. INFO: Monitor wells 5ppm
From Drum Storage Area

WATER BODY: Ground TOTAL IN WATER: 5 ppm
TOTAL RECOVERED: - RECOVERED FROM WATER: ______
DISCHARGER: Meadows Testing
DISCHARGER ACCEPTS FINANCIAL RESPONSIBILITY: (X) YES ( ) NO

DISCHARGE CLASS: 1.( ) UNKNOWN 2.( ) MARINE TERMINAL 3.(X) INDUSTRIAL
4.( ) TRANSPORTATION 5.( ) PRIVATE 6.( ) GOVERNMENTAL 7.( ) VESSEL
8.( ) COMMERCIAL 9.( ) INLAND TERMINAL 10.( ) UTILITY 11.( ) NATURAL
99.( ) OTHER ______

CAUSE: 1( ) UNKNOWN 2( ) HOSE FAILURE 3( ) TRANSF. LINE FAILURE
4( ) INGROUND TANK FAIL. 5( ) ABOVE GROUND TANK FAIL. 6( ) SADDLE TANK FAIL.
7( ) CARGO TANK FAIL. 8( ) FUEL TANK FAIL. 9( ) HULL FRACTURE 10( ) OVERFILL
11( ) CONTAINER FAIL. 12( ) VALVE FAIL. 13( ) FIRE 14( ) POWER FAILURE
15( ) PUMP FAIL. 16( ) PUMPING 17( ) DUMPING 18( ) ILLEGAL DISCHARGE
19( ) SINKING 20( ) SEEPAGE 21( ) PUMPING BILGE 22( ) OPEN HATCH
23( ) VANDALISM 24( ) BLOW BACK 25( ) ROAD OILING/REPAIR 26( ) M/V ACCIDENT
27( ) TRANS./CAPACITOR 28( ) NATURAL
99(X) OTHER Drum Storage Area

CORRECTIVE ACTIONS: 1(✓) NONE 2( ) NONE REQUIRED 3( ) UNKNOWN 4( ) REMOVED
5( ) CONTAINED & REMOVED 6( ) CONTRACTED 7( ) TEST WELL(S) 8( ) DISSIPATED
9( ) EVAPORATED 10( ) SANDED 11( ) FOAMED 12( ) REFERRED 13( ) CLEANED
14( ) WASHED DOWN 15( ) PUMPED OUT 16( ) NEUTRALIZED 17( ) [illegible]
18( ) REPAIRED LINE 19( ) REPAIRED TANK 20( ) DISPERSED 21( ) REMOVED TANK
99( ) OTHER ______

CLEAN-UP ACTIONS BEING TAKEN: Plans are being made for
Removal - Haz waste
AGENCIES NOTIFIED: ______
CLEAN-UP CONTRACTOR(S): ______ REQUESTED ______ ARRIVED ______
STATUS: ( ) OPEN ( ) CLOSED ( ) MONITORED CODE: C
RECEIVED BY: Santacroce INSPECTOR: NR/SS
DATE/TIME ASSIGNED: / / : ESTIMATED COST: ______

APPENDIX D

CONNECTICUT WATER QUALITY CLASSIFICATIONS

SUMMARY OF CONNECTICUT'S WATER QUALITY STANDARDS

The State of Connecticut is required by Section 22a-426 of the Connecticut General Statutes to develop standards for water quality. By statute, the standards must provide a clear objective statement of existing and projected water quality. The statute further states that the standards shall protect the public health and welfare and promote the economic development of the State, preserve and enhance the quality of the State's waters for present and future use for public water supplies, propagation of fish, aquatic life and wildlife, recreational purposes, agriculture, industrial and other legitimate uses. State Water Quality Standards are required by Federal Clean Water Act to be reviewed at least once every three years.

Classification of the State's waters must be made in accordance with the authorizing statute and the Water Quality Standards document of February, 1989. Accordingly classifications must be balanced and provide for all the needs of the State. While waters must be protected for safety and well being of fish, aquatic life and wildlife (Class AA, A, SA, B & SB), the protection of water supplies for human consumption (Class AA, GAA, & GA) is of paramount importance.

Waste products from municipalities and industry must be stringently regulated to protect valuable and limited drinking water supplies. Consequently, treated municipal sewage and certain municipal waste products, such as mixed refuse and incinerator ash, and all treated industrial process waters are prohibited from being placed where contaminants may enter Class AA, A, SA, GAA, or GA waters. These wastes will be restricted to Class B or SB surface waters, or Class GB or GC groundwater only after it has been demonstrated through a detailed permit application process under Section 22a-430 of Connecticut General Statutes that the proposed discharge treatment system or waste handling facility are environmentally sound and will not cause pollution of the State's waters.

CLASS GA

Class GA represents known or presumed high quality groundwater suitable for private potable water supply. Class GA may be potential sources of future public water supply. In Class GA resources, wastewater discharges of non-human or animal origin are strictly precluded. Permits may be granted for those discharges permitted in Class GAA areas and for septage disposal, or disposal of other wastes of predominantly human, or natural origin.

Whereas, Class GA groundwater is presumed to be suitable for direct human consumption without prior treatment, a classification of GB/GA describes groundwater known or presumed to be contaminated due to existing activities which pose a threat to groundwater quality. The State's goal for these areas is to restore groundwater to drinking water quality conditions.

(Reference: State of Connecticut. 1987. Water Quality Standards. Department of Environmental Protection Water Compliance Unit, Hartford, Connecticut.)

CLASS A

Class A surface waters are high quality surface waters designated for use as a potential public water supply, fish and wildlife habitat, recreational use, agricultural use, industrial supply, and other legitimate uses, including navigation. The State's goal is to maintain existing high quality, natural conditions. Similar to Class AA waters, wastewater discharges to Class A resources are prohibited, except for treated backwash from public drinking water supply treatment facilities, minor cooling waters, or clean water.

Whereas, Class A describes surface water quality that is known or presumed to meet all water quality objectives, a classification of B/A describes surface water quality that is threatened by a source of pollution. A classification of C/A describes surface water quality that is definitely impacted by pollution and therefore may have limited suitability for certain fish, wildlife, or recreational use such as swimming. The State's goal for both B/A and C/A classifications is to achieve and maintain Class A water quality conditions.

In cases where there is documented groundwater contamination and the appropriate remedial measures involve pumping and treatment of contaminated groundwater, DEP may authorize a temporary discharge permit (pursuant to Section 22a-430, C.G.S.), to Class A water. The permit could only be issued on determining that the discharge is "clean water" and all designated uses of the surface waters would not be adversely impacted by the treated discharge.

(Reference: Water Quality Standards. State of Connecticut Department of Environmental Protection Water Compliance Unit, February 1987.)

CLASS C

Class C is reflective of existing water quality problems, as opposed to being a goal for water quality. Class C waters can have existing uses that include certain fish and wildlife habitats, certain recreational activities, agricultural use, industrial and other legitimate uses, including navigation. However, in Class C waters one or more of these uses, such as swimming, may be impaired or precluded due to pollution.

Classifications of C/AA, C/A, or C/B are used to describe fresh water resources with known quality problems. The State goals are represented by the second letter; e.g. AA, A or B, thus reflecting the need to achieve and maintain higher water quality conditions. The goal of achieving and maintaining these higher water quality conditions is pursued unless a DEP and EPA approved "Use Attainability Analysis" determines, through public hearing, certain designated uses to be non-attainable. Although a "Use Attainability Analysis" may result in a Class C goal, there are, at present, no water resources with this goal.

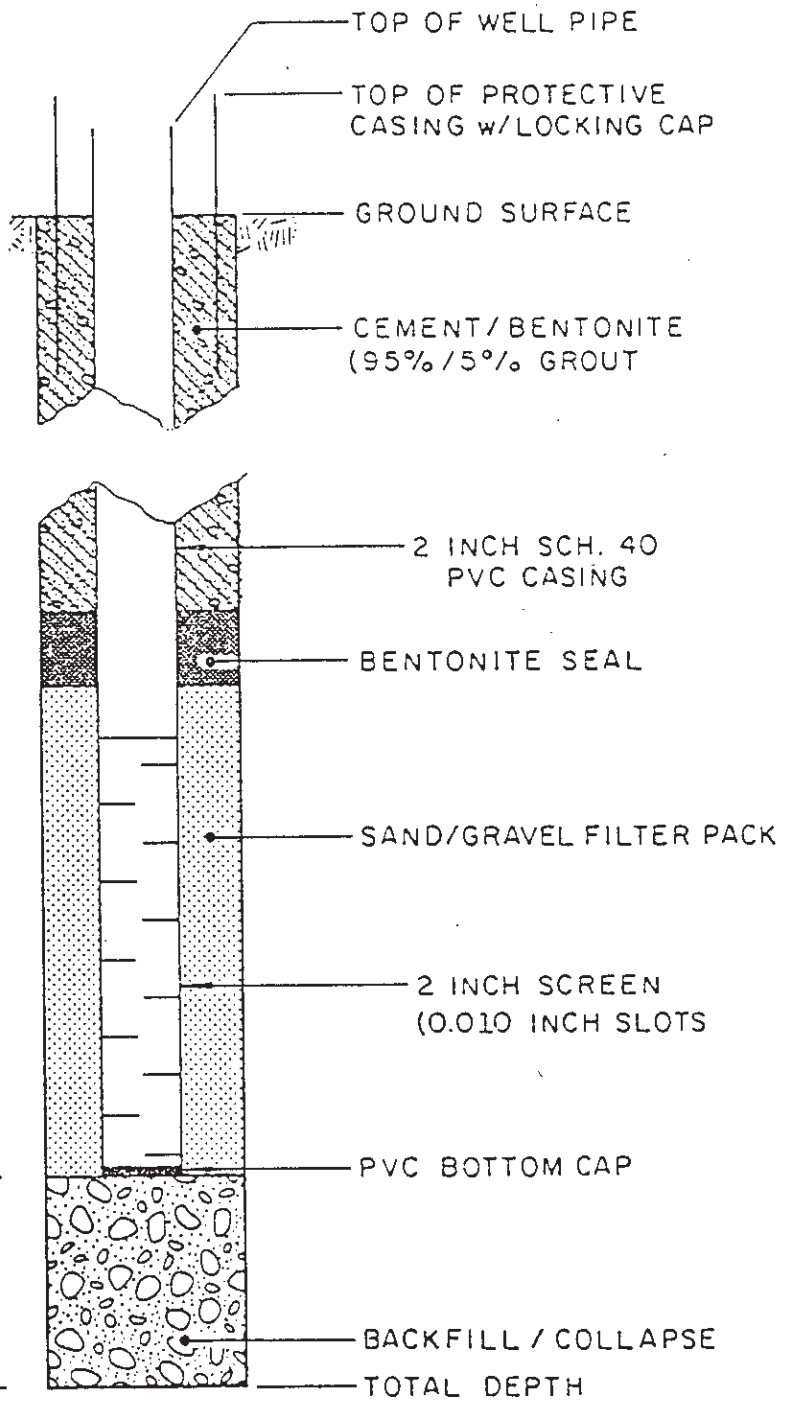
(Reference: Water Quality Standards. State of Connecticut Department of Environmental Protection Water Compliance Unit, February 1987.)

APPENDIX E

BORING LOGS AND MONITORING WELL DATA

TITLE: CEE-1	PROJECT NO.: 900.23 PROJECT NAME: Metals Testing Co.	PAGE: 1 OF 1

CONSTRUCTION DETAIL



*APPARENT

BY: GBI DATE: 4/16/90	CHECKED BY: PJT DATE: 4/16/90

consulting environmental engineers, inc.
Hartford, Ct. Warwick, R.I.

BORING LOG

Boring No. CEE-1
Sheet 1 of 1

CLIENT	JOB NO.	PROJECT
Metals Testing Co.	900.23	Phase II Site Assessment
LOCATION		ELEVATION AND DATUM
South Windsor, CT		
DRILLING CONTRACTOR	DRILLER	INSPECTOR
General Borings	Joe D./Prado	Paul Torcoletti
DRILLING RIG TYPE	BIT TYPE AND SIZE	DATE STARTED / DATE COMPLETED
Mobile B-53	4 1/4" H.S.A.	04/16/90 / 04/16/90
SAMPLER TYPE	HAMMER WEIGHT / DROP	TOTAL DEPTH / WATER LEVEL
1 3/8" S.S.	140 lbs. / 30 in	12' / 3.5

SAMPLES No.	Recovery (ft)	Blows per 6"	DEPTH (ft)	H2O	DESCRIPTION OF SOILS	REMARKS
S-1	1.66	5 6 9 7	1		4" bit. pavement top 8" r brwn fm SAND; little Silt; tr fm Gravel bot 12" tan fm SAND; tr Silt	moist
S-2	1.5	10 8 9 9	4	___	gray brwn fine SAND; tr Silt	saturated
S-3	1	2 6 11 12	6		tan fc SAND; tr Silt	saturated
S-4	1.5	1 3 4 5	11		top 10" tan fm SAND; tr Silt bot 8" gray brwn CLAYEY SILT; tr fine Sand	saturated varved
			14		E.O.B. = 12.0'	

BORING LOG

Boring No. CEE-2
Sheet 1 of 1

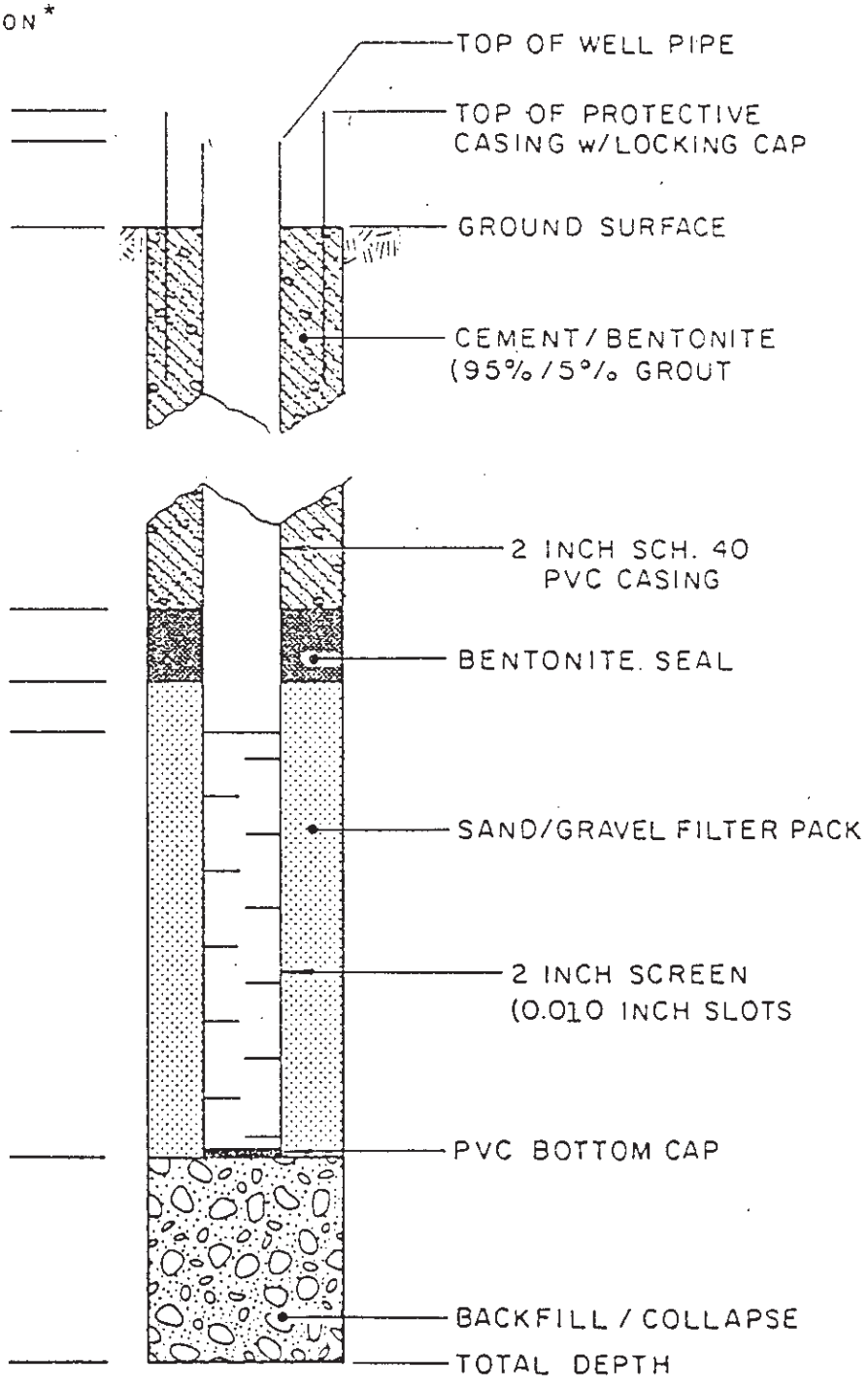
CLIENT	JOB NO.	PROJECT
Metals Testing Co.	900.23	Phase II Site Assessment
LOCATION		ELEVATION AND DATUM
South Windsor, CT		
DRILLING CONTRACTOR	DRILLER	INSPECTOR
General Borings	Joe D./Prado	Paul Torcoletti
DRILLING RIG TYPE	BIT TYPE AND SIZE	DATE STARTED / DATE COMPLETED
Mobile B-53	4 1/4" H.S.A.	04/16/90 / 04/16/90
SAMPLER TYPE	HAMMER WEIGHT / DROP	TOTAL DEPTH / WATER LEVEL
1 3/8" S.S.	140 lbs. / 30 in	12' / 3.5

SAMPLES No.	Recovery (ft)	Blows per 6"	DEPTH (ft)	H2O	DESCRIPTION OF SOILS	REMARKS
S-1	0.5	3 6 7 9	1		tan fm SAND; tr Silt	moist
S-2	1.5	5 10 8 6	4	___	lt. brwn fc SAND; tr fine Gravel; tr Silt	saturated
S-3	1.5	4 6 7 7	6		top 6" brwn fc SAND; tr Silt; tr fine Gravel bot 12" gray brwn CLAYEY SILT; tr vf Sand	saturated varved
			14		E.O.B. = 12.0'	

TITLE: CEE-2	PROJECT NO.: 900.23 PROJECT NAME: Metals Testing Co.	PAGE: 1 OF 1

CONSTRUCTION DETAIL

DEPTH BELOW* GROUND SURFACE (FEET)	ELEVATION* (MSL)
	87.29
0	
1.25	86.04
2.0	85.29
2.5	84.79
11.0	76.29
12.0	75.29



*APPARENT

BY: GBI DATE: 4/16/90	CHECKED BY: PJT DATE: 4/16/90

consulting environmental engineers, inc.
Hartford, Ct. Warwick, R.I.

BORING LOG

Boring No. CEE-3
Sheet 1 of 1

CLIENT	JOB NO.	PROJECT
Metals Testing Co.	900.23	Phase II Site Assessment
LOCATION		**ELEVATION AND DATUM**
South Windsor, CT		

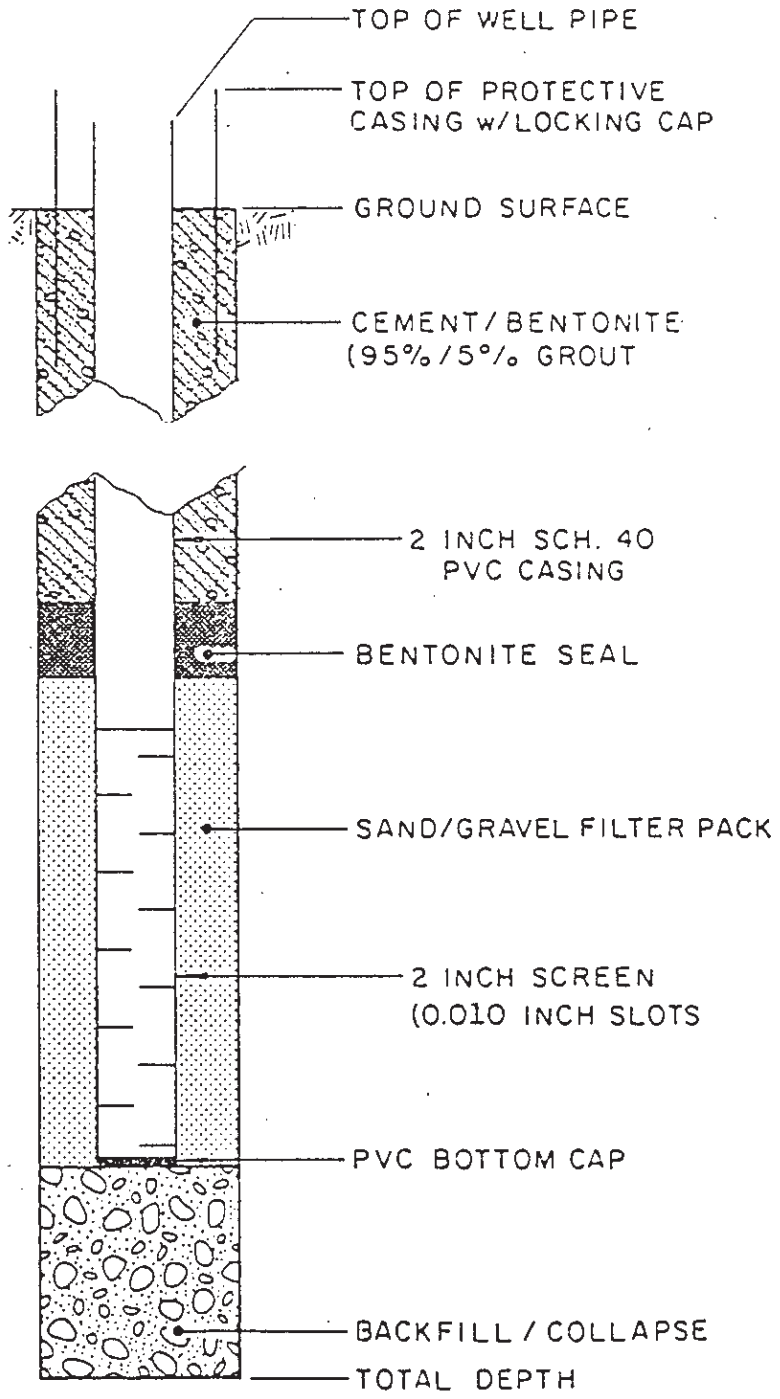
DRILLING CONTRACTOR	DRILLER	INSPECTOR	
General Borings	Joe D./Prado	Paul Torcoletti	
DRILLING RIG TYPE	**BIT TYPE AND SIZE**	**DATE STARTED**	**DATE COMPLETED**
Mobile B-53	4 1/4" H.S.A.	04/16/90	04/16/90
SAMPLER TYPE	**HAMMER WEIGHT / DROP**	**TOTAL DEPTH**	**WATER LEVEL**
1 3/8" S.S.	140 lbs. / 30 in	12.5	3.5

SAMPLES No.	Recovery (ft)	Blows per 6"	DEPTH (ft)	H 2 0	DESCRIPTION OF SOILS	REMARKS
S-1	1.66	1 3 6 7	1		1" topsoil top 12" r brwn to brwn fm SAND little Silt bot 8" orange brwn fm SAND; tr Silt	moist
S-2	1.5	5 7 6 6	5 6 7		lt. brwn fm SAND; tr Silt	saturated
S-3	1.25	2 6 8 10	10 11 12		top 14" brwn fine SAND; tr mc Sand; tr Silt bot 1" gray brwn CLAYEY SILT; tr fine Sand	saturated varved
			14		E.O.B. = 12.5'	

TITLE: CEE-3	PROJECT NO: 900.23 PROJECT NAME: Metals Testing Co.	PAGE: 1 OF 1

CONSTRUCTION DETAIL

DEPTH BELOW* GROUND SURFACE (FEET)	ELEVATION* (MSL)
	87.77
0	
1.25	86.52
2.00	85.77
2.5	85.27
12.5	75.27
12.5	74.77



*APPARENT

BY: GBI DATE 4/16/90	CHECKED BY: PJT DATE: 4/16/90

consulting environmental engineers, inc.
Hartford, Ct. Warwick, R.I.

BORING LOG

Boring No. CEE-4
Sheet 1 of 1

CLIENT: Metals Testing Co.	JOB NO.: 900.23	PROJECT: Phase II Site Assessment	
LOCATION: South Windsor, CT		ELEVATION AND DATUM:	
DRILLING CONTRACTOR: General Borings	DRILLER: Danny Jr./Jim	INSPECTOR: Paul Torcoletti	
DRILLING RIG TYPE: Mobile B-53	BIT TYPE AND SIZE: 4 1/4" H.S.A.	DATE STARTED: 06/04/90	DATE COMPLETED: 06/04/90
SAMPLER TYPE: 1 3/8" S.S.	HAMMER WEIGHT: 140 lbs. / DROP: 30 in	TOTAL DEPTH: 14'	WATER LEVEL: 4

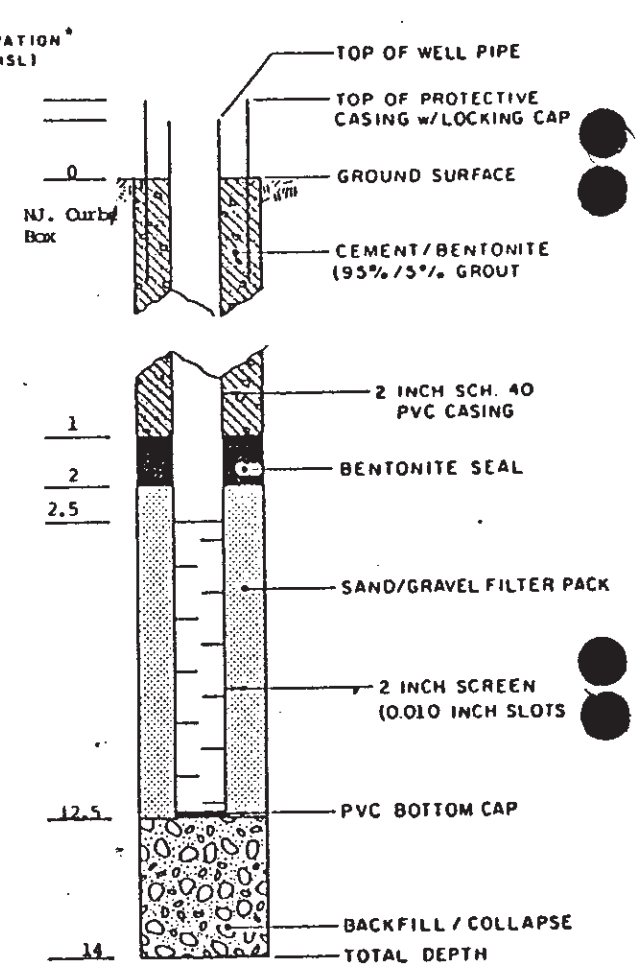
SAMPLES No.	Recovery (ft)	Blows per 6"	DEPTH (ft)	H2O	DESCRIPTION OF SOILS	REMARKS
S-1	1	7 16 6 5	1		3" bit. pavement top 8" r brwn mc SAND; little Silt; tr f Gravel bot 4" orange brwn mc SAND; tr Silt	moist
S-2	1.5	8 12 10 10	6		top 6" brwn f SAND; tr Silt; bot 12" brwn mc SAND ; tr Silt	saturated
S-3	0.42	3 4 6 11	11		tan mc SAND; tr Silt	saturated
S-4	1.5	6 8 7 7	13		top 9" brwn mc SAND; tr Silt; bot 9" gray SILT and CLAY; tr fine Sand	saturated varved
			15		E.O.B. = 14.0'	

TITLE: CEE-4

PROJECT NO.: 900.23
PROJECT NAME: Metals Testing Co.

PAGE: 1 OF 1

CONSTRUCTION DETAIL



*APPARENT

BY: Torcoletti
DATE: 6-4-90

CHECKED BY: RJT
DATE: 6-4-90

consulting environmental engineers, inc.
Hartford, Ct. Warwick, RI

BORING LOG

Boring No. CEE-5
Sheet 1 of 1

CLIENT: Metals Testing Co.	JOB NO.: 900.23	PROJECT: Phase II Site Assessment	
LOCATION: South Windsor, CT		ELEVATION AND DATUM:	
DRILLING CONTRACTOR: General Borings	DRILLER: Danny Jr./Jim	INSPECTOR: Paul Torcoletti	
DRILLING RIG TYPE: Mobile B-53	BIT TYPE AND SIZE: 4 1/4" H.S.A.	DATE STARTED: 06/04/90	DATE COMPLETED: 06/04/90
SAMPLER TYPE: 1 3/8" S.S.	HAMMER WEIGHT: 140 lbs. / DROP: 30 in	TOTAL DEPTH: 14'	WATER LEVEL: 4

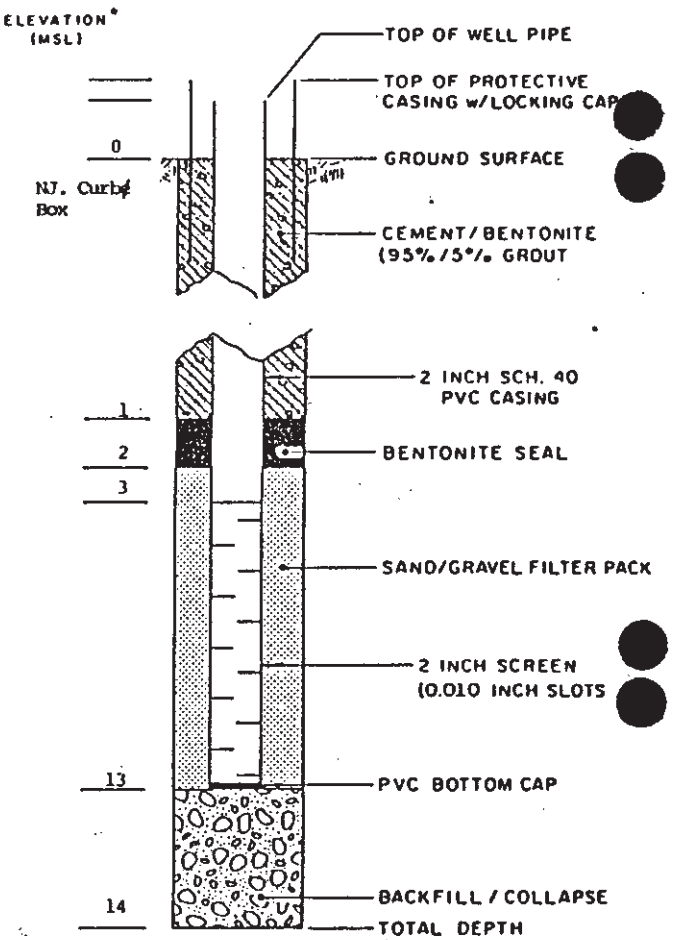
SAMPLES No.	Recovery (ft)	Blows per 6"	DEPTH (ft)	H 2 0	DESCRIPTION OF SOILS	REMARKS
S-1	1.5	22 15 13 10	1		3" bit. pavement top 3" r brwn mc SAND; little Silt; tr f Gravel bot 15" brwn to tan m SAND; tr Silt; tr f Gravel	Dry Fill
S-2	0.83	7 10 12 10	6		tan mc SAND; tr Silt (mostly coarse sand)	saturated well sorted mica flakes
S-3	0.83	3 3 4 4	11		tan mc SAND; tr Silt; tr f Gravel; 1 piece m Gravel	saturated
S-4	1.5	7 6 6 7	13		top 16" brwn to tan mc SAND; tr Silt; tr f Gravel bot 2" gray SILT and CLAY; tr f SAND	saturated varved
			15		E.O.B. = 14.0'	change to fines at 13'

TITLE: CEE-5

PROJECT NO.: 900.23
PROJECT NAME: Metals Testing Co.

PAGE: 1 OF 1

CONSTRUCTION DETAIL



*APPARENT

BY:
DATE

CHECKED BY:
DATE:

consulting environmental engineers, inc.
Hartford, Ct. Warwick, R.I.

TRI-S ENVIRONMENTAL CONSULTING
SOIL BORING / MONITORING WELL LOG

WELL NUMBER RW-1

CLIENT Metals Testing (Robert Delisle)
PROJECT NAME Metals Testing Remediation
PROJECT # 956
WELL LOCATION See Enclosed Maps
DRILLING CO. Kennedy Drilling
LOG BY Paul Miller

DATE DRILLED 11/15/90
WELL TOP ELEV.
PVC ELEV. 86.04
GROUND ELEV.
DRILLER Kevin Kennedy

DRILLING METHOD HSA
TOTAL DEPTH OF WELL 14'
SCREEN DIA. 4" LENGTH 10'
RISER DIA. 4" LENGTH 4'
SLOT SIZE 10

DEPTH	SAMPLE No.	PEN/REC.	DEPTH (FT.)	BLOWS/6"	FIELD CLASSIFICATION AND REMARKS	FIELD TESTING	EQUIPMENT INSTALLED
0					Red fine to coarse sand [illegible]		Flush-mounted [illegible] well Cap
1'							Riser: Native Fill; Bentonite
4–8					Gray [illegible] Moist at ~7.0'		Grade 1 Silica Sand Pack
9–11					Brownish/Tan [illegible] Sand		Screen
12–14					Gray Clay		
14					End of Boring		

NOTES:
1. FIELD TESTING PERFORMED USING A THERMO ENVIRONMENTAL INSTRUMENTS INC. ORGANIC VAPOR METER (OVM) MODEL 580B. METER RESPONSE IN PPM.
2. ND INDICATES NON-DETECTABLE CONTAMINANT CONCENTRATIONS ON OVM.
3. SAMPLES COLLECTED USING A SPLIT SPOON SAMPLER UNLESS OTHERWISE INDICATED.
4. SPLIT SPOON SAMPLER HAS A 2" DIAMETER AND IS DRIVEN USING A 140 LB. HAMMER FALLING 30 INCHES
5. HSA = HOLLOW STEM AUGER
AR = AIR ROTARY

TRI-S ENVIRONMENTAL CONSULTING
SOIL BORING / MONITORING WELL LOG

SHEET No. 2 of 2

WELL NUMBER RW-2

CLIENT Metals Testing (Robert Delisle)
PROJECT NAME Metals Testing Remediation
PROJECT # 956
WELL LOCATION See Enclosed Maps
DRILLING CO. Kennedy Drilling
LOG BY Paul Miller

DATE DRILLED 11/15/90
WELL TOP ELEV.
PVC ELEV. 87.19
GROUND ELEV.
DRILLER Kevin Kennedy

DRILLING METHOD HSA
TOTAL DEPTH OF WELL 14'
SCREEN DIA. 4" LENGTH 10'
RISER DIA. 4" LENGTH 4'
SLOT SIZE 10

DEPTH	SAMPLE No.	PEN/REC.	DEPTH (FT.)	BLOWS/6"	FIELD CLASSIFICATION AND REMARKS	FIELD TESTING	EQUIPMENT INSTALLED
					Ref fine to coarse sand and [illegible]		Cemented, No. Well Box
					Gray, Medium to Coarse Sand Moist @ 4.0'		Native Backfill Bentonite
5							Riser
					Brownish Tan Medium to Coarse Sand		Grade I Silica Sand Pack
10							Screen
					Gray Clay		
					End of Boring		
15							
20							
25							
30							
35							
40							

NOTES:
1. FIELD TESTING PERFORMED USING A THERMO ENVIRONMENTAL INSTRUMENTS INC. ORGANIC VAPOR METER (OVM), MODEL 580B. METER RESPONSE IN PPM.
2. NO INDICATES NON-DETECTABLE CONTAMINANT CONCENTRATIONS ON OVM.
3. SAMPLES COLLECTED USING A SPLIT SPOON SAMPLER UNLESS OTHERWISE INDICATED.
4. SPLIT SPOON SAMPLER HAS A 2" DIAMETER AND IS DRIVEN USING A 140 LB. HAMMER FALLING 30 INCHES
5. HSA = HOLLOW STEM AUGER
   AR = AIR ROTARY

APPENDIX F

GROUNDWATER SAMPLING RESULTS

A groundwater potentiometric map was constructed from the most recent elevations and is included as Appendix A. The groundwater configuration at the site remains similar to that determined on previous dates. A groundwater divide is still evident to the south of RW-2. This divide trends in a northwest - southeasterly direction and is a result of active groundwater removal via RW-2. The groundwater gradient in the mapped area is less than 4% in the area of drawdown and less than 1% downgradient of the groundwater divide. From this information, it is shown that groundwater at the site is influenced by the remedial pumping of RW-2 in a downgradient direction as far as monitoring well CEE-4.

3.2 Groundwater Sampling and Laboratory Results

Monitoring wells were resampled on August 26, 1992. Samples were analyzed by EPA method 8010 for halogenated volatile organic compounds (HVOC). Laboratory results are summarized in the table below along with previous results for comparison. Contaminant levels of 1,2-dichloroethene in wells CEE-1 and CEE-5, levels of tetrachloroethene in well CEE-4, and trichloroethene in wells CEE-1, CEE-4, and CEE-5 showed increases from previous sampling results. Well RW-1 contained 4.0 ug/l tetrachloroethene and 360.0 ug/l trichloroethene. Well RW-2 contained the same contaminant level as in the previous sampling analysis (5.0 ug/l trichloroethene). Wells CEE-2 and CEE-3 maintained a non detectable status for all contaminants analyzed.

Monitor Well Testing Results

Monitor Wells	Compounds	04\24\90*	06\11\90*	10/29/91	02/04/92	02/11/92	08/26/92	State of CT Drinking Water Action Levels
CEE-1	*1,2-Dichloroethene†*	ND	ND	53.0		ND	16.0	No level
	1,1-Dichloroethene	5.9	6.0	ND		ND	ND	7.0
	1,1,1,2-Tetrachloroethane	10.0	3.4					No level
	Methylene Chloride	13.0	ND	ND		ND	ND	25.0
	Tetrachloroethene (PCE)	31.0	25.0	2.0		ND	ND	5.0
	1,1,1-Trichloroethane	220.0	65.0	5.0		ND	ND	200.0
	1,1,2-Trichloroethane	ND	120.0	ND		ND	ND	No level
	Trichloroethene (TCE)	5500.0	3000.0	>100.0		4.0	10.0	5.0
CEE-2	*1,2-Dichloroethene*	ND	ND	ND	ND		ND	No level
	1,1-Dichloroethene	ND	ND	ND	ND		ND	7.0
	1,1,1,2-Tetrachloroethane	ND	ND					No level
	Methylene Chloride	ND	ND	ND	ND		ND	25.0
	Tetrachloroethene	ND	ND	ND	ND		ND	5.0
	1,1,1-Trichloroethane	ND	ND	1.0	ND		ND	200.0
	1,1,2-Trichloroethane	ND	ND	ND	ND		ND	No level
	Trichloroethene	ND	ND	ND	ND		ND	5.0

Monitor Well Testing Results

Monitor Wells	Compounds	04\24\90*	06\11\90*	10/29/91	02/04/92	02/11/92	08/26/92	State of CT Drinking Water Action Levels
CEE-3	*1,2-Dichloroethene*	ND	ND	ND	ND		ND	No level
	1,1-Dichloroethene	ND	ND	ND	ND		ND	7.0
	1,1,1,2-Tetrachloroethane	ND	ND					No level
	Methylene Chloride	ND	ND	ND	ND		ND	25.0
	Tetrachloroethene	ND	ND	ND	ND		ND	5.0
	1,1,1-Trichloroethane	ND	ND	ND	ND		ND	200.0
	1,1,2-Trichloroethane	ND	ND	ND	ND		ND	No level
	Trichloroethene	ND	ND	ND	ND		ND	5.0
CEE-4	*1,2-Dichloroethene*		ND	ND	ND		ND	No level
	1,1-Dichloroethene		ND	ND	ND		ND	7.0
	1,1,1,2-Tetrachloroethane		ND					No level
	Methylene Chloride		ND	ND	ND		ND	25.0
	Tetrachloroethene		ND	ND	ND		10.0	5.0
	1,1,1-Trichloroethane		ND	ND	ND		ND	200.0
	1,1,2-Trichloroethane		ND	ND	ND		ND	No level
	Trichloroethene		63.0	92.0	22.0		570.0	5.0
CEE-5	*1,2-Dichloroethene*		ND	6.0	ND		12.0	No level
	1,1-Dichloroethene		ND	ND	ND		ND	7.0
	1,1,1,2-Tetrachloroethane		ND					No level
	Methylene Chloride		ND	ND	ND		ND	25.0
	Tetrachloroethene		ND	1.0	ND		ND	5.0
	1,1,1-Trichloroethane		ND	1.0	ND		ND	200.0
	1,1,2-Trichloroethane		ND	ND	ND		ND	No level
	Trichloroethene		15.0	37.0	16.0		95.0	5.0
RW-1	*1,2-Dichloroethene*						ND	No level
	1,1-Dichloroethene						ND	7.0
	1,1,1,2-Tetrachloroethane							No level
	Methylene Chloride						ND	25.0
	Tetrachloroethene						4.0	5.0
	1,1,1-Trichloroethane						ND	200.0
	1,1,2-Trichloroethane						ND	No level
	Trichloroethene						360.0	5.0
Influent to water treatment system (RW-2)	*1,2-Dichloroethene*			ND	ND		ND	No level
	1,1-Dichloroethene			ND	ND		ND	7.0
	1,1,1,2-Tetrachloroethane							No level
	Methylene Chloride			3.0	ND		ND	25.0
	Tetrachloroethene			ND	ND		ND	5.0
	1,1,1-Trichloroethane			ND	ND		ND	200.0
	1,1,2-Trichloroethane			ND	ND		ND	No level
	Trichloroethene			21.0	5.0		5.0	5.0

Monitor Well Testing Results

Monitor Wells	Compounds	04\24\90*	06\11\90*	10/29/91	02/04/92	02/11/92	08/26/92	State of CT Drinking Water Action Levels
Field Blank	*1,2-Dichloroethene*			ND	ND		ND	No level
	1,1-Dichloroethene			ND	ND		ND	7.0
	1,1,1,2-Tetrachloroethane							No level
	Methylene Chloride			2.0	ND		ND	25.0
	Tetrachloroethene			ND	ND		ND	5.0
	1,1,1-Trichloroethane			ND	ND		ND	200.0
	1,1,2-Trichloroethane			ND	ND		ND	No level
	Trichloroethene			ND	ND		ND	5.0
Trip Blank	*1,2-Dichloroethene*			ND	ND		ND	No level
	1,1-Dichloroethene			ND	ND		ND	7.0
	1,1,1,2-Tetrachloroethane							No level
	Methylene Chloride			ND	ND		ND	25.0
	Tetrachloroethene			ND	ND		ND	5.0
	1,1,1-Trichloroethane			ND	ND		ND	200.0
	1,1,2-Trichloroethane			ND	ND		ND	No level
	Trichloroethene			ND	ND		ND	5.0

** DATA GATHERED BY CEE* *† Tested for trans-1,2-Dichloroethene by CEE; tested for combined trans and cis-1,2-Dichloroethene by TEC*
All results reported in micrograms per liter (ug/l) *Blank = No data, not sampled* *ND = None detected*

3.3 Groundwater Contamination

Isoconcentration maps were constructed for the site from the sampling results of August 26, 1992 (Appendix B). As shown on the maps, trichloroethene (TCE) was found in wells CEE-1, CEE-4, CEE-5, RW-1 and RW-2, with CEE-4 showing the highest concentration at 570 ug/l. Tetrachloroethene was found in only one well, RW-1, at 4 ug/l. CEE-1 and CEE-5 showed 16 and 12 ug/l of 1,2-dichloroethene, respectively.

CEE, 1990 Second Round Soil & GW Sampling Summary and Conceptual Remediation Design 570 Sullivan Ave. S. Windsor, CT. August

TABLE 1
ANALYTICAL RESULTS
GROUNDWATER SAMPLES, ROUND 2
METALS TESTING CO.

Well ID	CEE-1	CEE-2	CEE-3	CEE-4	CEE-5
Sample ID	S-1	S-2	S-3	S-4	S-5
Metals (ppm)					
Cadmium	na	na	na	na	<0.006
Total Chromium	na	na	na	na	<0.010
Lead	na	na	na	na	<0.010
Silver	na	na	na	na	<0.010
Aluminum	na	na	na	na	1.86
Nickel	na	na	na	na	0.314
Zinc	na	na	na	na	0.02
Halogenated Volatile					
Organic Compounds (ppb)					
1,1-Dichloroethylene	6	nd	nd	nd	nd
Methylene Chloride	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	3.4	nd	nd	nd	nd
Tetrachloroethylene (PCE)	25	nd	nd	nd	nd
1,1,1-Trichloroethane	65	nd	nd	nd	nd
1,1,2-Trichloroethane	120	nd	nd	nd	nd
Trichloroethylene (TCE)	3000	nd	nd	63	15

nd = not detected
na = not analyzed
ppm = parts per million
ppb = parts per billion

Shaded box indicates that parameter concentration exceeds State or Federal
Based upon:
1. EPA Drinking Water Standards (DWS)
2. Recommended Concentration Limits (RCL)
3. Connecticut Department of Health Services Action Level

TABLE 2
ANALYTICAL RESULTS
GROUNDWATER SAMPLES
METALS TESTING CO.

Well ID	CEE-1	CEE-2	CEE-3
Sample ID	S-1	S-2	S-3
Total Petroleum Hydrocarbons (TPH) (ppm)	nd	nd	nd
Halogenated Volatile Organic Compounds			
(HVOC) (ppb)			
1,1-Dichloroethylene	5.9	nd	nd
Methylene Chloride	13	nd	nd
1,1,1,2-Tetrachloroethane	10	nd	nd
Tetrachloroethylene (PCE)	31	nd	nd
1,1,1-Trichloroethane	220	nd	nd
Trichloroethylene (TCE)	5500	nd	nd
Total Trihalomethanes	561 (1)	nd	nd

nd = not detected
ppm = parts per million
ppb = parts per billion

(1) = 31 ppb Bromodichloromethane and 530 ppb Dibromochloromethane.

Shaded box indicates that parameter concentration exceeds State or Federal Standards.

Based Upon:
1. EPA Drinking Water Standards (DWS)
2. Recommended Concentration Limits (RCL)
3. Connecticut Department of Health Services Action Levels (DOHSAL)

Applicable Concentration Standards (ppb)	DWS	RCL	DOHSAL
Tetrachloroethylene	-	-	20
1,1,1-Trichloroethane	200	-	200
Trichloroethylene	5	-	5
Total Trihalomethanes	-	-	100

APPENDIX G

EFFLUENT RESULTS

e change of address:
Box 1760
Main Street
ttleboro, VT 05302
214 Main Street
Brattleboro, VT 05301

TRI-S INC
ENVIRONMENTAL CONSULTING

(802) 254-3677 (24 hrs.)
(802) 254-7630 (FAX)

Frank J

RECEIVED
MAY 27 1993
WATER MANAGEMENT
PERMITTING, ENFORCEMENT
& REMEDIATION DIVISION

May 24, 1993

Mr. Gary Leavitt
Sr. Sanitary Engineer
Water Management Bureau
Dept. of Environmental Protection
122 Washington Avenue
Hartford, CT 06106

SITE NAME: Superfund Metals Testing
TOWN: South Windsor
FILE TYPE: PR

Re: Effluent Sampling Results and Flow Rates
Former Metals Testing Site, 570 Sullivan Ave. South Windsor, CT

Dear Mr. Leavitt:

During the month of April, the groundwater remediation system at Metals Testing ran for Nineteen days. The system was shut down for 11 days at the beginning of the month when a fuse blew and shut the pump and blower down. The fuse was replaced and the groundwater remediation system was started up again on April 16th and ran continuously through the end of the month. An effluent sample from the system was collected on April 30th, analytical results are presented in the table below. Normal effluent sampling continues on a regularly scheduled basis as outlined by site discharge permits.

Water Testing Results, Effluent
February through April, 1993

Compound	2/03	3/04	4/30
TPH		ND	ND
1,2-Dichloroethene	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND
Methylene Chloride	ND	ND	ND
Tetrachloroethene (PCE)	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND
Trichloroethene (TCE)	ND	ND	ND

All results reported in parts per billion
ND = None Detected
Blank = No Data, Not Sampled
TPH = Total Petroleum Hydrocarbons

Branch Office:
25 Pinney Street, Ellington, CT 06029 (203) 875-2110 (24 hrs.)
Fax: (203) 875-8587 (24 hrs.)

The instantaneous flow rate at time of grab sample collection was:

Date	Time	Gal/Min
04/30/93	10:20	2

Continuous average discharge rates per hour and per day, as well as the running totals, are shown in the enclosed data sheets and graphs. The data output is compressed by a factor of 24 on the raw data sheets. As a result, there are some discrepancies between the raw data and the graphs which are not compressed and show the continuous hourly readings.

The soil vent system continues to operate without problems.

If you have any questions regarding the above information, please contact Dave Gagnon or me at 1-800-359-3677.

Sincerely,

Kirsten H. Jeppesen

Kirsten H. Jeppesen
Environmental Technician

Enclosures

cc: R. Delisle, Metals Testing Company
W. Myette, Land Owner
C.F. Shaw, Town of S. Windsor
F. Wacht, DEP

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Saved Recorder Status

Type: 2107-8K [redacted] 0 - 65535 Counts [redacted] Recorder ID: 7289

Time at Recorder: [illegible] 8/93 13:30:48 Accum Reset: 09/24/92 14:09:50

Signal process: Not Applicable Accum: 242,010.00 gal

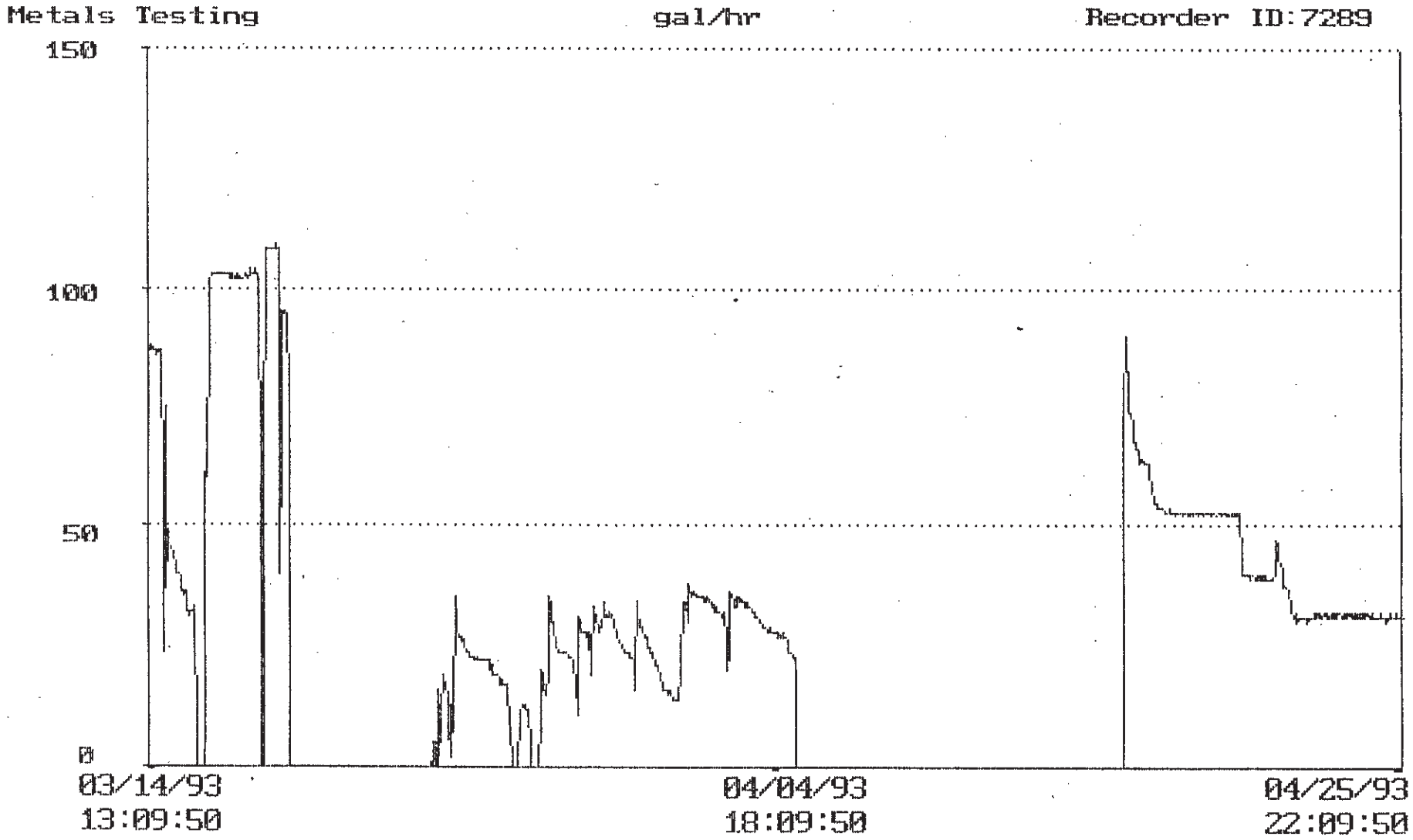
Values being saved: Totals

Totalizing period: 01:00:00 Amount of data recorded: 172 days 04:00:00

Storage Capacity: 4070 values records: 41 days 12:00:00 Prescaler: 1

Output compressed by a factor of 24

Date	Time	Avg Counts	Period Total	Running Total
03/13/93	09:09:50	91	2195	110728
03/14/93	09:09:50	71	1707	112435
03/15/93	09:09:50	28	680	113115
03/16/93	09:09:50	86	2055	115170
03/17/93	09:09:50	99	2375	117545
03/18/93	09:09:50	81	1948	119493
03/19/93	09:09:50	0	0	119493
03/20/93	09:09:50	0	0	119493
03/21/93	09:09:50	0	0	119493
03/22/93	09:09:50	0	0	119493
03/23/93	09:09:50	1	23	119516
03/24/93	09:09:50	20	473	119989
03/25/93	09:09:50	21	514	120503
03/26/93	09:09:50	10	247	120750
03/27/93	09:09:50	16	374	121124
03/28/93	09:09:50	24	571	121695
03/29/93	09:09:50	29	704	122399
03/30/93	09:09:50	26	616	123015
03/31/93	09:09:50	19	463	123478
04/01/93	09:09:50	31	744	124222
04/02/93	09:09:50	32	764	124986
04/03/93	09:09:50	32	779	125765
04/04/93	09:09:50	27	652	126417
04/05/93	09:09:50	2	59	126476
04/06/93	09:09:50	0	0	126476
04/07/93	09:09:50	0	0	126476
04/08/93	09:09:50	0	0	126476
04/09/93	09:09:50	0	0	126476
04/10/93	09:09:50	0	0	126476
04/11/93	09:09:50	0	0	126476
04/12/93	09:09:50	0	0	126476
04/13/93	09:09:50	0	0	126476
04/14/93	09:09:50	0	0	126476
04/15/93	09:09:50	0	0	126476
04/16/93	09:09:50	60	1447	127923
04/17/93	09:09:50	54	1296	129219
04/18/93	09:09:50	53	1265	130484
04/19/93	09:09:50	53	1263	131747
04/20/93	09:09:50	40	962	132709
04/21/93	09:09:50	37	894	133603
04/22/93	09:09:50	31	750	134353
04/23/93	09:09:50	32	758	135111
04/24/93	09:09:50	31	749	135860


Metals Testing
gal/hr
Recorder ID:7289
150
100
50
0
03/14/93
13:09:50
04/04/93
18:09:50
04/25/93
22:09:50

TRI-S ENVIRONMENTAL CONSULTING
DATA SUMMARY: METALS TESTING SITE/SOUTH WINDSOR CT
Water Testing Results, Effluent

Date (1991-1992) →	10/29	10/31	11/2	11/4	11/6	11/8	11/10	11/15	12/5	12/31	1/14	2/11	3/9	3/24
TPH	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1		<0.1
1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Methylene Chloride	3	3	ND	ND	ND	ND	ND	8	ND	ND	ND	ND	ND	
Tetrachloroethene (PCE)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1,1-Trichloroethane	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Trichloroethene (TCE)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	

All results reported in parts per billion *Blank = No Data, Not Sampled* *ND = None Detected* *TPH = Total Petroleum Hydrocarbons*

\956\effluent.cha

APPENDIX H

SOIL SAMPLE RESULTS

TABLE 1
ANALYTICAL RESULTS
SOIL SAMPLES
METALS TESTING CO.

Sample ID	S-1	S-2	S-4	S-5	S-7	S-8	S-9	S-10	S-11	S-12	S-13	S-14	S-15	S-17	S-18
Sample Depth (feet)	0.3-0.6	0.2-0.5	3.1-3.3	0.4-0.8	0.0-0.3	2.6-3.0	3.4-3.8	3.2-3.6	3.2-3.6	3.2-3.6	3.2-3.6	0.0-0.4	0.0-0.4	3.0-3.2	3.0-3.2
INORGANIC PARAMETERS															
EP Toxicity Metals (ppm)															
Cadmium	na	<0.030	<0.030	na	<0.030	na	<0.030	<0.030	<0.030	<0.030	<0.030	na	na	na	na
Chromium	na	<0.050	<0.050	na	<0.050	na	<0.050	<0.050	<0.050	<0.050	<0.050	na	na	na	na
Lead	na	<0.010	<0.010	na	<0.010	na	<0.010	<0.010	<0.010	<0.010	<0.010	na	na	na	na
Silver	na	<0.050	<0.050	na	<0.050	na	<0.050	<0.050	<0.050	<0.050	<0.050	na	na	na	na
Aluminum	na	<0.30	<0.30	na	0.76	na	<0.30	<0.30	<0.30	<0.30	<0.30	na	na	na	na
Nickel	na	<0.10	<0.10	na	<0.10	na	<0.10	<0.10	<0.10	<0.10	<0.10	na	na	na	na
Zinc	na	0.079	0.044	na	0.076	na	0.066	0.040	0.039	0.058	0.046	na	na	na	na
ORGANIC PARAMETERS															
Total Petroleum Hydrocarbons (TPH) (ppm)	na	<28	<42	<28	na	870	na	na	na	na	na	na	na	na	na
Aromatic Volatile Organic Compounds (BTEX) (ppb)															
Benzene	na	na	nd	na	nd	nd	na	na	na	na	na	na	na	na	na
Toluene	na	na	nd	na	nd	nd	na	na	na	na	na	na	na	na	na
Ethylbenzene	na	na	nd	na	nd	nd	na	na	na	na	na	na	na	na	na
Xylenes	na	na	nd	na	nd	nd	na	na	na	na	na	na	na	na	na
Halogenated Volatile Organic Compounds (HVOC) (ppb)															
1,4-Dichlorobenzene	nd	1200	nd	nd	nd	nd	na	na	na	na	na	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	nd	190	nd	nd	nd	nd	na	na	na	na	na	nd	nd	nd	nd
Tetrachloroethylene	nd	2900	nd	nd	660	nd	na	na	na	na	na	nd	nd	nd	nd
1,1,2-Trichloroethane	nd	130	nd	nd	85	nd	na	na	na	na	na	nd	nd	nd	nd
Trichloroethylene	3.8	7200	6.6	nd	12000	4.3	na	na	na	na	na	nd	nd	nd	nd

nd = not detected
na = not analyzed
ppm = parts per million
ppb = parts per billion

Shaded box indicates that parameter concentration exceeds State or Federal Standards
Based upon: 1. EPA Drinking Water Standards (DWS)
2. Recommended Concentration Limits (RCL)
3. Connecticut Department of Health Services Action Levels (DOHSAL)

Applicable Concentration Standards (ppb)	DWS	RCL	DOHSAL
Tetrachloroethylene	-	-	20
Trichloroethylene	5	-	5

Soil Sampling Results

Sample Location →		S-1	S-17	S-2	S-4	S-7	S-8
Sample Depth (ft) →		0.3 - 0.6	3.0 - 3.2	0.2 - 0.5	3.0 - 3.3	0.3 - 0.5	2.6 - 3.0
Date	HVOC (ug/kg)						
10/07/92 Sampled by TEC	1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND
	1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND
	Tetrachloroethylene	ND	ND	ND	ND	ND	ND
	1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND
	Trichloroethylene	ND	ND	ND	ND	ND	ND
Date	HVOC (ug/kg)						
3/28/90 Sampled by CEE	1,4-Dichlorobenzene	ND	ND	1200.0	ND	ND	ND
	1,1,1,2-Tetrachloroethane	ND	ND	190.0	ND	ND	ND
	Tetrachloroethylene	ND	ND	2900.0	ND	660.0	ND
	1,1,2-Trichloroethane	ND	ND	130.0	ND	85.0	ND
	Trichloroethylene	3.8	ND	7200.0	6.6	17000.0	4.3

All results reported in micrograms per kilogram (ug/kg) HVOC = Halogenated Volatile Organic Compounds
Most recent samples were taken in the approximate location of the previous samples

3.5 File Search

A file search for the area surrounding Metals Testing was conducted on August 27, 1992. The search was performed to uncover any other possible local sources of trichloroethene and other chemical contamination. Several South Windsor sites had documentation confirming the use and/or presence of Trichloroethene and other chlorinated solvents on their property. Industronics Inc. on 489 Sullivan Avenue and Gerber Scientific at 83 Gerber Road both included notes indicating historical evidence of on-site disposal and/or discharge. There were no reports of releases or discharges of these contaminants at these locations. Other sites in the vicinity that possibly use Trichloroethene or related solvents include Eagle Machine Co. located at 233 Sullivan Avenue, Jones Metal Products Co. located at 590 Sullivan Avenue, and H&B Tool & Engineering Co. located at 481 Sullivan Avenue. A list of South Windsor Companies that utilize hazardous substances is included in Appendix E along with other site relevant information found during the state file search. It is possible that other groundwater monitoring studies, finding trichloroethene contamination, have not been performed in the area and their findings have not been presented to the state.

APPENDIX I

NATURAL DIVERSITY DATA BASE

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

NATURAL RESOURCES CENTER
165 Capitol Avenue, Room 553
Hartford, CT 06106
Natural Diversity Data Base

October 13, 1993

MaryAnne Danyluk
DEP-Bureau of Waste Management

Re: Metals Testing, South Windsor

Dear MaryAnne:

I have reviewed Natural Diversity Data Base maps and files regarding the project listed above and delineated on the maps provided. According to our information, the following (see attached list) Federally Endangered and Threatened species or Connecticut State Special Concern species have been reported from the 4-mile radius.

Natural Diversity Data Base information includes all information regarding critical biologic resources available to us at the time of the request. This information is a compilation of data collected over the years by the Natural Resources Center's Geological and Natural History Survey and cooperating units of DEP, private conservation groups and the scientific community. This information is not necesarily the result of comprehensive or site-specific field investigations. Consultation with the Data Base should not be substituted for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available.

Thank you for providing us with the opportunity to comment on this proposed project. If I may be of further assistance, do not hesitate to call 566-3540.

Sincerely,

Stacey Kingsbury
Environmental Analyst

att.

Scientific Name	Common Name	Last Obs.	State status	Fed. status
1/4 mile - none				
1/2 mile - none				
1 mile:				
Dicanthelium xanthophysum	Panic grass	1916	SC	
Lycaena epixanthe	Bog Copper	1991	T	
Carex oligosperma	Few-seeded Sedge	1917	SC	
Scirpus longii	Long's Bulrush	1917	SC	
Melanerpes erythrocephalus	Red-headed Woodpecker	1863	E	
Poor Fen		1991		
Rododendron canadense	Rhodora Azalea	1991		
2 miles:				
Scirpus torreyi	Torrey Bulrush	1917	T	
Utricularia fibrosa	Fibrous Bladderwort	1916	SC	
Platanthera blephariglottis	White-fringed Orchid	1933	E	
Arisaema dracontium	Green Dragon	1981	SC	
Accipiter cooperii	Cooper's Hawk	1877	T	
Asio flammeus	Short-eared Owl	1854	T	
Eremophila alpestris	Horned Lark	1970	T	
Passerculus sandwichensis	Savannah sparrow	1991	SC	
Alopecurus aequalis	Orange Foxtail	1985	T	
Picea mariana	Black Spruce	1991		
Poor Fen		1992		
Lycaena epixanthe	Bog Copper	1985	T	
Carex alata	Broadwing Sedge	1993	E	
Carex barrattii	Barratt's Sedge	1993	SC	
Carex cumulata	Clustered Sedge	1993	SC	

3 Miles:

Coturnicops noveboracensis		1936	
Bartramis longicauda	Upland Sandpiper	1970	E
Poocetes gramineus	Vesper Sparrow	1970	E
Ixobrychus exilis	Least Bittern	1985	T
Gallinila chloropus	Common moorhen	1984	T
Poor Fen		1991	
Bald Eagle Winter Roost Site		1990	
Anas discors	Blue-winged Teal	1986	T
Arisaema dracontium	Green Dragon	1987	SC
Salmo salar	Atlantic salmon	1989	
Bald Eagle Winter Roost Site		1990	
Floodplain Forest		1988	
Floodplain Forest		1991	
Arisaema dracontium	Green Dragon	1991	SC
Melanerpes erythrocephalus	Red-headed Woodpecker	1937	E

4 Miles:

Sagittaria cuneata	Waputo	1899	SC
Poor Fen		1986	
Poor Fen		1986	
Floodplain Forest		1979	
Bald Eagle Winter Roost Site		1990	
Hydrophyllum virginianum	Virginia Waterleaf	1979	SC
Floodplain Forest		1978	
Dicanthelium ovale var addisonii	Panic Grass	1913	SC
Picea mariana	Black Spruce	1983	